April, 1997
RG-112

Source Reduction and Waste Minimization Annual Progress Report

Instruction Manual and Forms for Large-Quantity Generators and TRI Reporters

printed on recycled paper

Office of Pollution Prevention and Recycling

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

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Acknowledgments

The development of this annual reporting package has been an ongoing process over the past five years through a combined effort of the Texas Natural Resource Conservation Commission (TNRCC), industry, and environmental organization representatives. These groups provided input into the Annual Progress Report Form and the manual's design and content.

In 1996 TNRCC formed a workgroup to streamline the forms for reporting annual progress on source reduction and waste minimization. As with the original report, TNRCC sought advice from industry and environmental organizations. The workgroup cut the number of pages required in half; the amount of information required was reduced by over two-thirds. This accomplishment was possible because of agency database innovations that allowed utilization of information from other reports.

The TNRCC is grateful for the enthusiastic support of the workgroup members and the organizations they represent.

Purpose

The purpose of this document is to help large quantity generators of hazardous waste and reporters on the Toxics Release Inventory (TRI) form R comply with the annual reporting requirements of the Waste Reduction Policy Act. This book is for guidance only; it does not replace or supersede the official rules and regulations.

Common Acronyms

APR	Annual Progress Report
AWS	Annual Waste Summary
ER	Energy Recovery
HW	Hazardous waste
P2	Pollution Prevention
PPA	Federal Pollution Prevention Act of 1990
RCRA	Resource Conservation and Recovery Act
SB1099	Senate Bill 1099. Also known as WRPA.
SR	Source Reduction
SR/WM	Report Source Reduction and Waste Minimization Annual Progress Report
Subc. Q	Rules in 30 TAC §335.471-480 that require Source Reduction and Waste Minimization Plans, Executive Summaries, and SR/WM Annual reports.
TRI	Toxic Release Inventory
WM	Waste minimization
WRPA	Waste Reduction Policy Act

Chapter 1 — Introduction

The Waste Reduction Policy Act (WRPA) of 1991, also known as Senate Bill 1099, was adopted by the Texas Legislature to reduce the volume, toxicity, and adverse public health and environmental effects of hazardous waste generated or pollutants or contaminants released in the state. WRPA is codified as the Texas Health and Safety Code, §361.501 — §361.510, and rules implementing WRPA are found in 30 TAC §335.471– 480 (see Appendix A).

WRPA applies to the following:

- **Large-Quantity Generators (LQGs) —** Facilities that generate more than 13.2 tons of hazardous waste a year,
- **Small-Quantity Generators (SQGs) —** Facilities that generate between 1.102 tons and 13.2 tons of hazardous waste a year, and
- **Toxics Release Inventory (TRI) Reporters** — Those manufacturing facilities that are subject to the Toxics Release Inventory (TRI) Form R reporting requirements.

Under WRPA, managers of these facilities must:

- prepare a Source Reduction and Waste Minimization (SR/WM) Plan,
- submit an executive summary of the plan, and
- report annually on pollution prevention activities.

This instruction manual covers the SR/WM annual reporting requirements for facilities that are LQGs and/or TRI reporters.

Note: This document refers to the **Source Reduction/Waste Minimization Annual Progress Report** by the shorter title **SR/WM Report**. For the sake of this regulatory guidance document these two terms are interchangeable.

If you would like information on SQG requirements under WRPA, preparing an SR/WM plan, or submitting an executive summary you may order other guidance documents from the TNRCC (see Appendix B.)

WHAT IS THE SR/WM REPORT?

Texas law requires facilities to identify feasible pollution prevention projects and to set goals for reduction and waste minimization. Facilities must also prepare an SR/WM plan and report progress annually toward meeting their source reduction and waste minimization goals.

Source Reduction means any practice that:

- reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; **and**

- reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

Source reduction is the preferred method of pollution prevention.

Under state law, Waste Minimization is a practice that reduces the environmental or health hazards associated with hazardous waste, pollutants, or contaminants. Examples may include reuse, recycling, neutralization, and detoxification.

Once the plan is prepared, LQGs and TRI reporters are required to annually report their progress towards meeting their goals. The **Source Reduction and Waste Minimization Annual Progress Report (SR/WM Report)** measures this progress. The Texas annual progress report should not be confused with the U.S. Environmental Protection Agency's (EPA) Waste Minimization Report (see the section on differences between federal and state pollution prevention programs later in this chapter).

A separate SR/WM plan must be prepared for each facility. A facility is a site that can be distinguished by its unique EPA and Texas Solid Waste identification numbers.

WHEN ARE SR/WM REPORTS DUE?

The first step in determining the due date of your annual progress report is to determine your SR/WM plan due date; the annual progress report is due on July 1 of the first full year after he plan is due to be complete. For example, a facility that completes the initial SR/WM plan on 1/01/95 is required to submit an SR/WM Report by 7/01/96. The SR/WM Report should report the previous

year's pollution prevention activities. Table 1 shows the due dates for the SR/WM plan to be completed. Table 2 shows the SR/WM Report submittal date.

NEW STREAMLINED REPORTING REQUIREMENTS FOR 1997

If you submitted the SR/WM Report in previous years, you may notice the current report has fewer required pages. The TNRCC, working with input from industry and public interest groups, reduced the amount of information you need to submit. The new reports have gone from four pages to two. Only one-third of the information required on the old forms is required on the new ones.

Some of the changes include:

- The new forms have two required pages. Required forms are marked with a symbol for a legal scale in the upper left hand corner. These forms can be found in Chapter 4.

- Optional Forms are marked with a factory picture in the upper left hand corner. Copies these forms can be found in Chapter 6.

- The new forms consist of facility information (Part 1), information about wastes and TRI chemicals prior to implementation of the five-year WRPA plan (Part 2), information about the current year's source reduction activities (Part 2A), and information about the goal year (Part 3R).

- Sections that are no longer required have been made optional. These were left in because companies that have used them in the past found them extremely useful for tracking their progress and communicating results of their efforts throughout the community.

- Detailed information is no longer required for onsite and off-site waste minimization activities. Companies need only report their five-year goal in terms of percent waste minimization. You may still report detailed information using the optional forms.

- Questions were added for identifying small businesses. We ask about the number of employees and whether the facility is part of a larger business.

Table 1
SR/WM Plan Implementation Dates
(Based on Total Amounts of Hazardous Waste Generated and/or TRI Releases and Transfers)

Plan completion date[1]	Total amount of HW generated[2] (tons per year)	TRI releases and transfers [3] (tons per year)	Year of HW or TRI data that is used to determine due date
7/01/93	HW: ≥ 5,000	TRI: ≥ 100	1992
1/01/94	HW: ≥ 500 < 5,000	TRI: ≥ 10 < 100	1993
1/01/95	HW: ≥ 15 < 500	TRI: ≥ 5 < 10	1994
1/01/96	HW: ≥ 5 < 15	TRI: ≥ 1 < 5	1995
1/01/97	HW: ≥ 1.102 < 5	TRI: < 1	1996

Source: 30 TAC §335.475

[1] A SR/WM plan completion date is based on total amounts of hazardous waste generated and/or TRI releases and transfers for the preceding calendar year. For example, if a facility released and/or transferred 8 tons of TRI chemicals in 1994, its SR/WM plan should be completed by 1/01/95.
[2] Total amount of all hazardous waste generated at the facility, as reported on the TNRCC's Annual Waste Summary Report (that is, wastes with Texas Waste Codes beginning with "9" or ending with "H").
[3] Total releases of all chemicals exceeding TRI reporting thresholds as reported in Section 5 On-site Releases and Section 6 Off-site Transfers on TRI Form R.

Important — Texas Administrative Code

Failure to submit the SR/WM Annual Progress Report to the TNRCC by the due date is a violation of the Texas Administrative Code (TAC) and can result in fines of up to $10,000 per day that the report is late. Failure to submit an SR/WM executive summary to the TNRCC or failure to have a complete SR/WM plan in place by the due date is also a violation of the TAC.

Table 2
Due Dates for SR/WM Annual Progress Reports

Initial SR/WM plan due to be completed[1]	First SR/WM report due July 1	Second SR/WM report due July 1	Third SR/WM report due July 1	Fourth SR/WM report due July 1	Fifth SR/WM report due July 1
1993	1994	1995	1996	1997	1998
1994	1995	1996	1997	1998	1999
1995	1996	1997	1998	1999	2000
1996	1997	1998	1999	2000	2001
1997	1998	1999	2000	2001	2002

[1]See Table 1 for plan completion dates (column 1).

Note: The SR/WM Report can be revised or amended at any time by submitting a new report; for more information on revisions see the section on revisions later in this chapter.

OPTIONAL FORMS

You may notice that many of the questions we required have been transferred to the optional forms in Chapter 6. Directions for the optional forms are in Chapter 5. We suggest you consider using the optional forms; they were designed to assist your company in tracking your pollution prevention efforts and identifying barriers to additional pollution prevention efforts.

We have supplied these optional forms because previous reporters have found them extremely useful. The optional forms:

- Allow your company to report adjusted progress (Parts 4A-D) that accounts for
  - factors outside the company's control and
  - effect of increased production.
- Allow you to share your success with the community and have them publicized (Part 4D).

- Give an overall picture of your facility's progress, which can be used to demonstrate your success to management (Part 3, Parts 4A-D).

- Are used by many larger companies as a tool to communicate between various organizational areas (Part 3).

- Document the level of source reduction and waste minimization activity; they also assist the company to evaluate projects in terms of source reduction or waste minimization activities (Parts 2B-C).

- If you are a generator of hazardous waste, and have not submitted the Annual Waste Summary required by 30 TAC §335.9, you will need to complete Part 3 of the optional forms to meet the requirements of WRPA. Completion of Part 3 does not meet the requirements for the Annual Waste Summary. For information on the Annual Waste Summary please contact the Industrial and Hazardous Waste Division of the TNRCC at (512)239-6832.

By completing the optional forms you engage in self-evaluation of your pollution prevention program. This self-evaluation frequently results in a stronger program that can save your organization money.

PURPOSE OF THE SR/WM REPORT

The purpose of the SR/WM Report is to measure statewide pollution prevention progress. One benefit of the SR/WM Report is that it encourages facilities to assess and monitor their pollution prevention efforts. Many companies implement more effective pollution prevention programs because completion of the SR/WM Report reveals opportunities to further reduce waste and increase profits.

In addition, the TNRCC analyzes the data in the APRs submitted on pollution prevention progress in Texas in order to:

- report to the Texas Legislature on pollution prevention in Texas,
- communicate the progress industry has made by supplying pollution prevention information in TNRCC reports to the public,
- provide information to the press on pollution prevention progress made by facilities throughout Texas, and

- identify individual facilities for potential success stories.

It is important for you to provide the TNRCC with the most accurate data possible so that, in turn, the agency provides correct information to those who request it. Your information may help decide future directions for statewide environmental programs. Common questions we have to answer include:

- Are Texas businesses preventing pollution?
- Is pollution being reduced in Texas? If so, how, and by how much?

AVOIDING CONFUSION BETWEEN FEDERAL AND STATE DEFINITIONS AND REPORTS

Be sure to understand that federal and state programs are different. For the purpose of the Texas SR/WM Report you should understand that a term used in a federal program may have an entirely different definition when used in a state program. Also, federal and state reports may appear the same but are in fact separate.

Important — Definition Differences

Federal and Texas programs define **waste minimization** differently.

- **Federal Programs** — define waste minimization to include source reduction, recycling, and reuse.
- **Texas WRPA Program** — defines waste minimization to include reuse, recycling, neutralization, and detoxification.

The definition of source reduction is the same in both the federal and Texas programs and is given in the Federal Pollution Prevention Act (PPA) of 1990.

For both definitions, source reduction activities will reduce the quantity of hazardous wastes generated and/or the amount of toxic chemical releases and transfers managed in wastes. Waste minimization has no effect on the quantity of hazardous wastes generated since it takes place after the point of generation.

Important — Report Similarities

Do not confuse this Texas report with the EPA Waste Minimization Report (forms WM and IC OMB#: 2050-0024) that was formerly required by the Resource Conservation and Recovery Act (RCRA). **This federal report is being discontinued** (see Vol 61, No. 129 of the Federal Register July 3, 1996). In Texas, the EPA Waste Minimization Report was managed by the TNRCC Industrial and Hazardous Waste Division, Waste Evaluation Section.

The **State of Texas Report** (SR/WM Report), managed by the TNRCC Office of Pollution Prevention and Recycling, **is still required.**

The SR/WM Annual Progress Report is NOT a substitute for other reports required by the TNRCC or EPA.

Persons completing the SR/WM Annual Progress Report must be familiar with, as applicable, the Toxics Release Inventory (TRI) Form R, and the TNRCC Annual Waste Summary Report because data reported under WRPA is drawn from these reports. To see the relationship of the other reports to the SR/WM Report, please refer to Table 3 in Chapter 2.

REVISIONS

Why Make Revisions

Facilities should review their SR/WM plan and update it as needed. Revisions to the plan may include a change in reduction goals, implementation schedule, projects, employee training and awareness programs, etc. The TNRCC suggests that companies make revisions to the SR/WM plan and the SR/WM executive summary when the SR/WM Report is due. They can send the revised SR/WM executive summary to the TNRCC along with the SR/WM Report.

The following list includes some typical reasons for revising a report, but you may wish to revise your report for other reasons:

- If you submitted revisions during previous years to the TRI Form R or the Annual Waste Summary, you should revise your APR.

- Correcting quantities of HW generated, TRI release/transfers, amounts to be source-reduced and waste minimized, or other information previously submitted in an SR/WM Report.

- Adjusting the SR/WM plan source reduction and waste minimization goals by more than 10 percent (+-).

If you are not sure about whether or not a revision is needed, contact the TNRCC's Office of Pollution Prevention and Recycling (see the How to Get Assistance section in Chapter 2).

How to Make Revisions

Although the SR/WM Report is due July 1 of each year, a previously submitted APR can be amended or revised any time during the year. To revise your SR/WM Report, make a copy of one you previously submitted. Mark through the old "report date" and enter the new date on Part 1. Mark through the old information, write in revisions, and send the form to the TNRCC at the address provided on the following page.

Chapter 2 — General Instructions

WHERE TO SEND SR/WM REPORTS

Send the original of your facility's Source Reduction and Waste Minimization Annual Progress Report (SR/WM Report) to:

SR/WM Annual Progress Report
Office of Pollution Prevention & Recycling, MC 112
Texas Natural Resource Conservation Commission
PO Box 13087
Austin, TX 78711-3087

While completing the SR/WM Report you should keep the following in mind.

- For fields that require calculated data, calculations should be based on established practices and/or good engineering judgement.
- Copies of the report and supporting documentation should be kept on file to explain all estimates and calculations used in developing the SR/WM Annual Progress Report.
- If you have left any blanks in your report, or report something not specifically discussed in this manual, please make a note of this either on the form you submit or in your cover letter.
- Enter the information requested in the header on each page of the report. The information should be identical on all pages of the report.
- If requested information is not applicable, type “N/A” on the form.
- **Please provide the correct ID numbers for EPA, SW, and TRI. If you do not provide the correct number, your facility may not be credited with submitting a report.**

Table 3 lists sources of information you can use to complete the SR/WM Report.

Table 3
Sources of Information for the SR/WM Annual Progress Report

SR/WM Annual Progress Report Section		Source
Part 1		IDs directly from NOR, permits, TRI Form R
Part 2	HW	The AWS for the year prior to the first year the plan was due
Part 2	TRI	Form R report for the year prior to the first year the plan was due
Part 2A	HW	Calculated from AWS
Part 3R		Calculated from SR/WM Plan (and possibly optional parts of report)

NOR = Solid Waste Notice of Registration
AWS = Annual Waste Summary
Form R, TRI Form R = Toxic Release Inventory Form R
Other sources of information for calculated portions of SR/WM Report include (but are not limited to) facility or corporation engineering specifications guides, shipping manifest forms, and copies of contracts or agreements with off-site facilities that manage your wastes.

HOW TO GET ASSISTANCE

For assistance completing forms for this report, or for other questions about the Waste Reduction Policy Act, please contact the Industrial Pollution Prevention Team at:

Phone: (512) 239-3100
Fax: (512) 239-3165
E-mail: ppc@tnrcc.state.tx.us

Office hours are Monday through Friday from 8 a.m. to 5 p.m. CST.

- You can mail questions to the address listed in the previous section.
- To order more forms please mail or fax the order form in Appendix B.
- Forms can also be obtained by using TNRCC On-Line as shown in Appendix C.
- Visit the TNRCC home page: http://www.tnrcc.state.tx.us

Chapter 3 — Instructions for Completing the Required Forms

PART 1 — FACILITY DESCRIPTION

Part 1 of the report (page one of the required forms) includes facility information. The header for the optional forms should have the same company name, report date, and EPA/TRI ID number as the first required page.

Report Year — Enter the calendar year that covers the information contained in the SR/WM Report.

Report Date — Enter the date that the report is sent to the TNRCC. All reports should be postmarked no later than July 1 of the year following the report year (see Table 2 in Chapter 1).

Company Name — Enter the name of the company or corporation that appears on the notice of registration (NOR) for the facility. If you are a large company with several facilities, you should also enter a site name (e.g., ABC, Inc., West Texas Plant).

Name of Pollution Prevention Contact — Enter the name of the person who can answer questions about the facility's pollution prevention program from the public, TNRCC, or other parties. This person does not have to be the same as the person who completed or oversaw completion of the annual report, but the individual should be able to answer questions about the facility's pollution prevention program.

Title — Enter the pollution prevention contact person's title.

Mailing Address, City, State, and Zip Code — Enter the mailing address of the pollution prevention contact person. The address can be either a street address or a post office box. Use the five digit zip code, and the four digit extension, (xxxxx-xxxx) when it is known.

Telephone, Fax — Enter area code, telephone number, and fax for the pollution prevention contact person.

Important — Give Correct ID Numbers

EPA ID # (RCRA) — Enter the 12-character identification code.

TRI ID # — Enter the 15-character identification code.

TNRCC SW Reg. # — Enter the five-digit solid waste registration number (NOR) issued by the TNRCC.

Provide the correct ID numbers for EPA, SW, and TRI. **If you do not provide the correct identification number, your facility may not be credited with submitting a report**.

Primary SIC Code — Enter the four-digit number that best describes the principal product or service at the facility. The code should be the same as provided with TRI Form R and/or provided on your Solid Waste Notice of Registration. This code is also required on your employer's quarterly report, filed with the Texas Workforce Commission (formerly the Texas Employment Commission). Appendix D includes a copy of this form, with the location of the SIC code marked with an arrow.

Secondary SIC Code(s) — Enter the four-digit number(s) that describes other products or services. List up to two different SIC codes.

Number of Employees — Enter the estimated total number of all full-time employees at all sites of the company. For this form, a full-time employee means 2,000 work hours per year. For simplicity you may wish to estimate based on employee hours in a workweek. If your facility is owned by an extremely large company, you may answer "over 1,000."

Example 3.1 — Estimating the Number of Employees

Ed's Repair Shop has three mechanics who work full time (40 hours/week), a part- time custodian who works 10 hours per week, and a part-time secretary who works 30 hours per week. The secretary and the custodian (total 40 hours/week) work the equivalent of one full-time employee. Therefore, the number of employees is four.

Is your company independently owned or operated? — If your company is part of a larger company, a subsidiary of another company, or is operated by another company, then the answer is "NO."

E-Mail (optional)— If you have an e-mail address, you may wish to include it; the TNRCC may use this medium in the future to inform you of pollution prevention issues and events.

Enter the date the SR/WM plan was last revised — Enter the date (mm/dd/yy) of the last time that the plan was updated, modified, or changed. If applicable, attach a brief explanation of why the plan/executive summary was revised.

Check box if this report revises report previously submitted — Enter "X" if this report is submitted to amend information already submitted for a given **report year**. Be sure that the proper year is entered in the **report year** box.

Check box if you are currently a member of the CLEAN INDUSTRIES 2000 program. Enter "X" if facility is a CI2000 member for the reporting year. If you would like information on this program, or want to become a member of CI2000, please contact your CLEAN INDUSTRIES Coordinator, at (512) 239-3187, or by E-Mail at: ppc@tnrcc.state.tx.us.

Prepared By, Preparer's Title, Preparer's Telephone Number — Indicate the person who actually prepared the form; the TNRCC may contact this person for minor typographic errors, legibility questions, or other minor issues.

PART 2 — HAZARDOUS WASTE AND TRI AMOUNTS FOR THE YEAR PRIOR TO THE FIRST YEAR OF YOUR PLAN

In this part we will need information about the year prior to the first year of your plan; this information should not change from year to year unless you revise your annual waste summary for that year.

Prior Year — Enter the year prior to the first year your plan was due to be completed. This is the year that your facility triggered the reporting requirements. For example, if your five-year plan should have been complete in 1995, the **Prior Year** is 1994.

Rows 1 and 2 — Enter the amount of hazardous waste generated (row 1) and TRI releases and transfers (row 2) for the year prior to the beginning of your plan**. Be sure to report in tons.**

PART 2A — SOURCE REDUCTION ACTIVITIES FOR REPORT YEAR

Rows 1 through 8 — These rows are for reporting the estimated amount of HW and TRI releases/transfers that you source-reduced. In rows 1 through 8 in column A, report the estimated quantity (tons) of hazardous waste that was not generated due to source reduction activities. Report the estimated quantity (tons) of TRI chemicals that were not released or transferred due to source reduction activities in column B on rows 1 through 8.

Estimate and include the sum of the reportable tons of HW and TRI chemicals reduced for every specific source reduction activity listed on Tables 4 and 5 for each category 1 through 8 for the report year.

Table 4 lists source reduction activities grouped by category; refer to it for the activity that most closely describes your projects for completion of Part 2A. If you report for TRI you may have already reported some source reduction activities in Section 8 of the TRI Form R. You can check this section of your report against the codes in Table 5 to get the category of the source reduction activity.

Row 9 — Enter the sum of rows 1 through 8.

Some materials are classified as both a hazardous waste and a TRI chemical. However, due to different standards of reporting, the reported amount of hazardous waste generated may be different from the reported amount of TRI generated, even if the report deals with the same waste stream. When one of these (dual classified) materials is source-reduced, the tons source-reduced would be reported in both column A (for HW) and B (TRI). The amount of source reduction reported in each column will be different. However, a particular source reduction activity should not be assigned to more than one row. Example 3.2 illustrates this concept.

Example 3.2 — Materials Reported under Both TRI and Hazardous Waste Regulations

ABC Manufacturing reports benzene on their Annual Waste Summary and the TRI Form R. The benzene releases result from leaks in their pipes and connections. In order to prevent the leaks from contaminating groundwater, the floor is washed every night, and the water-benzene mixture is sent to an off-site wastewater treatment plant.

Different Reported Amounts for the Annual Waste Summary and TRI — On the TRI Form R, the total releases and transfers of benzene is reported as 4,000 pounds (2 tons.) On the Annual Waste Summary, the benzene shipped off-site is reported as 50 tons. This difference results because the benzene was disposed of in a water-benzene mixture. Under the hazardous waste regulations, when a nonhazardous substance is mixed with a hazardous substance the entire mixture becomes hazardous. In contrast, the TRI reporting requirements only require facilities to report the amount of toxic chemical released or transferred. Because the reporting requirements are different, the amount of hazardous waste material source-reduced, as reported in column A of Part 2A, will differ from the amount of TRI material source-reduced, as reported in column B of Part 2A.

Source Reduction Project — ABC manufacturing installed dry disconnect couplings on most of their flanges, reducing the accidental leaks and spills, and thus reducing the amount of wastewater needed to handle the benzene. Since installing these dry disconnect couplings, the amount of benzene contaminated wastewater reported on the annual waste summary was reduced from 50 tons to only 1 ton. The benzene releases and transfers reported on the TRI Form R dropped from 2 tons per year to 0.2 tons per year.

Reporting on Section 2A —

Hazardous Waste Source Reduction = 50 tons - 1 ton = **49 tons**

TRI Source Reduction = 2 tons - 0.2 tons = **1.8 tons**

Looking on the TRI Form R, Section 8, the company noted that their activity has the Source Reduction Activity Code of W39, *other spill and leak prevention*, and therefore the activity will be listed on Row 3 of Section 2A for both hazardous waste and TRI columns.

For Section 2A the company reports:
49 tons in Column A, Row 3
1.8 tons in Column B, Row 3

Note: You may find that your TRI reductions and your hazardous waste reductions are not proportional. In this example, the facility achieved a 98% reduction in hazardous waste, but only an 80% reduction of TRI.

Because of this source reduction activity, ABC has been reclassified from Large-Quantity Generator (LQG) to Conditionally Exempt Small-Quantity Generator (CESQG).

The quantities source-reduced for a reporting year can be determined by measurement or estimated using activity or production indexing. Examples of estimating source reduction can be found at the end of this chapter and in Appendix E.

PART 3R — PROJECTED AMOUNTS FOR THE GOAL YEAR

Goal Year — This is the fifth year of your plan. Example: If your plan began in 1996, your goal year is 2000.

Row 1 — Enter the estimated amount of hazardous waste (Column A) generated and the total estimated amount of TRI (Column B) chemicals to be released and transferred for your goal year.

Row 2 — Add the total amount of hazardous waste (Column A) and/or TRI (Column B) chemicals that will be source-reduced over the five-year period.

Example 3.3 — Estimation of Source Reduction over a Five-Year Period

A company reports 20 tons of xylene on the TRI Form R in their prior year. The xylene is an ingredient in the solvent they use to prepare their product. During the first year of their plan they plan to educate their employees on better handling of the solvent (putting lids on containers, minimizing spills, and checking for leaks in the process area). By implementing these inventory control procedures they hope to use 5 tons/year less xylene. In the second year they plan to have a solvent reuse/recirculation device in place that will route unused solvent back into the process. This change will result in a source reduction of 10 tons per year. By their third year they hope to find an alternate material that does not contain hazardous or TRI listed chemicals. This change will source-reduce their remaining 5 tons.

Plan Year	Amount Source-reduced	Amount Produced
Year 1	5	20-5 =15 tons
Year 2	10	15-10 = 5 tons
Year 3	5	5 - 5 = 0 tons
Year 4	0	0
Year 5	0	0

The amount to be source-reduced over the five year period is

SR year 1 + SR year 2 + SR year 3 + SR year 4 + SR year 5 =
5 tons + 10 Tons + 5 Tons + 0 + 0 = **20 tons**

For Part 3R :
The company reports **20 tons in column B of Row 2**

Row 3 — This row reflects the waste minimization activities at the end of the fifth year.

Example 3.4 — Estimation of Waste Minimization Percent for the Goal Year

A company generates 100 tons of hazardous sludge per year. In the first year they treat 20 tons. After treatment the waste will no longer be hazardous. The second year they expect to treat 30 tons. The third year they expect to treat 40 tons. By the fifth year they expect to treat 50 tons.

Row 3 is only for reporting fifth-year projections (based on the Source Reduction Waste Minimization Plan). Therefore, this company would report:

$$\frac{\text{(100 tons Total) - (50 tons Waste Minimized in the Fifth Year)}}{\text{(100 tons Total)}}$$

$$= 0.5 \text{ or } \mathbf{50\%}$$

Column A Row 3 would read **50%**

Table 4
Source Reduction Activities by Category

TO FILL OUT: SR/WM Annual Progress Report, Part 2A, Column A	Suggestions for Source Reduction Activity
Row 1 **Good Operating Practices**	Segregate types of hazardous waste to make more amenable to recycling Segregate hazardous waste from non-hazardous waste Improve maintenance scheduling, record keeping, or procedures Change production schedule Other changes in operating practices
Row 2 **Inventory Control**	Institute procedures to reduce outdated material Test outdated material Eliminate shelf-life requirements for stable materials Institute better labeling procedures Institute clearinghouse to exchange waste materials Other changes in inventory control
Row 3 **Spill and Leak Prevention Codes**	Improve storage and stacking procedures Improve procedures for loading, unloading and transfer operations Install overflow alarms or automatic shut-off valves Install secondary containment Install vapor recovery systems Implement inspection or monitoring program of potential spill and leak sources Other spill and leak prevention
Row 4 **Raw Material Modifications**	Increase purity of materials Substitute raw materials Other raw material modifications
Row 5 **Process Modifications Codes**	Institute closed-loop recycling Modify equipment, layout or piping Use of a different process catalyst Institute better controls on operating conditions Change from small volume containers to bulk containers Other process modifications
Row 6 **Cleaning and Degreasing**	Modify stripping/cleaning equipment Change to mechanical stripping/cleaning devices (from hazardous solvents) Change to aqueous cleaners (from hazardous solvents or other materials) Reduce number of solvents used, to make waste more amenable to recycling Modify containment procedures for cleaning units Improve draining procedures Redesign parts racks to reduce drag out Modify or install rinse systems Improve rinse equipment design Improve rinse equipment operation Other cleaning and degreasing modifications
Row 7 **Surface Preparation and Finishing**	Modify spray systems or equipment Substitute coating materials used Improve application techniques Change from spray to other system Other surface preparation and finishing modifications
Row 8 **Product Modifications**	Change product specifications Modify design or composition of product Modify packaging Other product modifications

Table 5
Source Reduction Activity Codes for TRI Chemicals

TO FILL OUT: SR/WM Annual Progress Report, Part 2A, Column B	USE INFORMATION FROM: TRI Form R[1] Part II, Section 8.10	
Row 1 **Good Operating Practices**	W13 W14 W19	Improve maintenance scheduling, record keeping, or procedures Change production schedule to minimize equipment and feedstock changeovers Other changes in operating practices
Row 2 **Inventory Control**	W21 W22 W23 W24 W25 W29	Institute procedures to ensure that materials do not become outdated in inventory Test outdated material - continue to use if still effective Eliminate shelf-life requirements for stable materials Institute better labeling procedures Institute clearinghouse to exchange materials that would otherwise be discarded Other changes in inventory control
Row 3 **Spill and Leak Prevention Codes**	W31 W32 W33 W35 W36 W39	Improve storage and stacking procedures Improve procedures for loading, unloading and transfer operations Install overflow alarms or automatic shut-off valves Install vapor recovery systems Implement inspection or monitoring program of potential spill and leak sources Other spill and leak prevention
Row 4 **Raw Material Modifications**	W41 W42 W49	Increase purity of materials Substitute raw materials Other raw material modifications
Row 5 **Process Modifications Codes**	W51 W52 W53 W54 W55 W58	Institute recirculation within a process Modify equipment, layout or piping Use a different process catalyst Institute better controls on operating bulk containers Change from small volume containers to bulk containers Other process modifications
Row 6 **Cleaning and Degreasing**	W59 W60 W61 W63 W64 W65 W66 W67 W68 W71	Modify stripping/cleaning equipment Change to mechanical stripping/cleaning devices (from solvents to other materials) Change to aqueous cleaners (from solvents or other materials) Modify containment procedures for cleaning units Improve draining procedures Redesign parts racks to reduce drag out Modify or install rinse systems Improve rinse equipment design Improve rinse equipment operation Other cleaning and degreasing modifications
Row 7 **Surface Preparation and Finishing**	W72 W73 W74 W75 W78	Modify spray systems or equipment Substitute coating materials used Improve application techniques Change from spray to other system Other surface preparation and finishing modifications
Row 8 **Product Modifications**	W81 W82 W83 W89	Change product specifications Modify design or composition of product Modify packaging Other product modifications

[1] From the 1994 version of Toxic Chemical Release Inventory Reporting Form R and Instructions, EPA 745-K-95-051, Appendix B, pp.B-4, B-5

EXAMPLES OF SOURCE REDUCTION CALCULATION

These examples illustrate methods for estimating source reduction. Further examples of source reduction calculations are illustrated in Appendix E.

Example 3.5 — Source Reduction by Raw Material Modification

A facility uses a solvent bath to clean filament wire in a batch process. Facility records document that in 1991, the 500-gallon tank contents were changed 10 times, generating 1 ton of HW each cleaning. In 1992, raw material changes resulted in the tank contents being changed 10 times, but only generating 0.9 tons of HW with each cleaning. How much source reduction took place in 1992? What source reduction activity should it be reported under?

Step 1. Determine quantity of waste generated in 1991 and 1992 from the batch process.

HW gen. 1991 = (10 cleanings) × (1.0 ton HW/cleaning) = 10 tons
HW gen. 1992 = (10 cleanings) × (0.9 ton HW/cleaning) = 9 tons

Step 2. Determine the difference in quantities of waste generated between 1991 and 1992, which is the amount source-reduced (the total length of wire cleaned was the same each year).

HW source-reduced = 10 - 9 = 1 ton in 1992

Answer — Amount SR in 1992 is 1 ton. Reported on Row 4 Column A (raw material modification)

Example 3.6 — Estimating Source Reduction Using Activity Productivity Index

A facility manufactures widgets and generates a hazardous waste stream, waste stream 1 (ws1). The amount of HW generation associated with ws1 is *directly proportional* to how many widgets are produced. In 1991, five tons of HW were generated for 2,000 widgets. In 1992, the facility manufactured 3,000 widgets with process modification and generated seven tons of HW. How much source reduction took place for the 1992 reporting year? What source reduction activity should it be reported under?

Step 1. Calculate **Activity Productivity (A/P)** Index

A/P Index = 3,000 ÷ 2,000= 1.5

Step 2. Multiply waste quantity generated in 1991 by the A/P Index.

(5 tons) × (1.5) = 7.5 tons

Step 3. Subtract the 1992 waste quantity from the quantity that would have been generated without process modification (source reduction activity).

Amount source-reduced = 7.5 - 7.0 = 0.5 tons in 1992

Answer — Amount SR in 1992 is ½ ton. Reported on row 5 column A under Process Modifications.

Example 3.7 — Source Reductions in Toxic Air Emissions

A manufacturing facility switches from Volatile Organic Compound (VOC) based coating (Paint A) to water based coating (Paint B). What is the amount of TRI chemicals source-reduced?

Each paint will have a Material Safety Data Sheet (MSDS). The MSDS for Paint A might look something like this.

SAMPLE---Material Safety Data Sheet----SAMPLE

HighVOC Supply Company
PO BOX 4874
Anytown, New York, 55555

PAINT A

I. Physical Data

Specific Gravity: 0.858 (@60° F.)
Pounds/Gallon: 7.158
Vapor Density: 3.7 (Air = 1)
Vapor Pressure: 67.0 (mm of HG) @20
Solubility in Water: Appreciable
%Volatile by Volume: 75
VOC by volume: 50% (by volume)
Evaporation Rate: 22.3

II. Hazardous Ingredients

SARA TITLE II

Product:	%by wt.	CAVES
Methylene Chloride	**15**	75-09-2
2-Butoxyethanol	**11**	111-76-2
Mixed Xylene	**4**	1330-20-7

The MSDS also has a lot of other information, but the most important information is the percent by weight of TRI chemicals and the density.

Looking at his receipts the manager was able to determine that the shop used 4,000 gallons of Paint A per year. That means that the amount of TRI chemicals used was:

(4,000 gal/year) × (7.158 lbs/Gallon) × (0.15 MeCl + 0.11 2-Butoxy ethanol + 0.04 Mixed Xylene) ÷ 2000 lbs/ton

= 4.3 tons/year

Looking on Table 4, the manager sees substitute coating materials used under the category of **Surface Preparation and Finishing**.

Answer — The company would put **4.3** on Column B of Line 7, Surface Preparation and Finishing.

Chapter 4 — Required Forms

Completion of the following page (front and back) meets the annual reporting requirements of the Waste Reduction Policy Act for Large-Quantity Generators and/or TRI reporters UNLESS you have not completed the Annual Waste Summary required by 30 TAC §335.9. If you are a generator of hazardous waste, and have not submitted the Annual Waste Summary required by 30 TAC §335.9, you will need to complete Part 3 of the optional forms to meet the requirements of WRPA. Completion of Part 3 does not meet the requirements for the Annual Waste Summary. For information on the Annual Waste Summary please contact the Industrial and Hazardous Waste Division of the TNRCC at (512)239-6832.

Required Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Part 1 - Facility Description

Report Year		Report Date	
Company Name include the site name if you have multiple facilities in Texas			
Name of Pollution Prevention Contact		EPA ID# (RCRA)	
Title		TRI ID #	
Mailing Address		TNRCC SW Reg. #	
City		Primary SIC Code	
State and Zip Code		Secondary SiC Code(s)	
		Number of Employees	
Telephone		Is your company independently owned or operated?	
Fax		E-Mail (optional)	
Enter date the SR/WM Plan was last revised. Attach an explanation of why it was revised.			
	Check box if this report revises a report previously submitted this or a previous year.		
	Check box if you are currently a member of the CLEAN INDUSTRIES 2000 program.		

Prepared By (Print or type name)	
Preparer's Title	
Preparer's Telephone Number	

Required Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Part 2 - Hazardous Waste and TRI Amounts for the Year Prior to the First Year of Your Plan

	Amount Reported in the Year Prior to the First Year of your Plan	**Prior Year**	Reported Quantities	
			HW (A)	TRI (B)
1	Amount of hazardous waste generated in the Prior Year		Tons	
2	Amount of TRI releases and transfers in the Prior Year			Tons

Part 2A - Source Reduction Activities for Report Year

	Source Reduction Activities	Estimated Quantities	
	Estimate the amount of reductions in HW generated and TRI releases that occurred during the reporting year attributable to each of the source reduction activity categories listed below.	HW (tons) (A)	TRI (tons) (B)
1	Good operating practices		
2	Inventory control		
3	Spill and leak prevention		
4	Raw material modifications		
5	Process modifications		
6	Cleaning and degreasing		
7	Surface preparation and finishing		
8	Product modifications		
9	Total Amount Source Reduced (sum rows 1 through 8)		

Part 3R - Projected Amounts for Goal Year

	Projected Amounts for Goal Year (goal year is the fifth year the plan is in place)	Goal Year	Estimated Quantities	
			HW (A)	TRI (B)
1	Goal (fifth) year projection - Amount HW Generated - TRI onsite releases plus off-site transfers		Tons	Tons
2	Total Amount source reduction over a five-year period		Tons	Tons
3	% Waste minimization for the goal year		%	%

Note: Submission of waste minimization information and information about HW generated and TRI releases and transfers for the previous reporting year is required by the Waste Reduction Policy Act. Most generators of hazardous waste meet this requirement through submission of their annual waste summary. If you have not completed the annual waste summary, you will need to complete Part 3 of the SR/WM optional forms and attach it to this page. Submission of Part 3 does not substitute for submission of the annual waste summary.

CHECKLIST FOR REQUIRED FORMS

Before submitting the Source Reduction and Waste Minimization Annual Progress Report (SR/WM Report) to the TNRCC, please review the following checklist to help ensure that the report is correct and complete. **Please review every entry made on each form to make sure that all of the information is correct and complete before submitting report forms**.

Reminder: The report is public information.

Overall Form Completeness and Accuracy

☐ Mark all blank spaces appropriately (i.e., numbers, information, "NA," "DK," correct "+" or "-" signs) on each page. Type or print all information in ink, and make sure that it is legible.

☐ All quantity entries are right justified, decimal aligned.

☐ Make sure that each page of the report, including every attached optional page, contains correct and complete reporter identification information (page header that indicates report year and date, company and facility name, and TRI or EPA ID numbers).

☐ Make a copy of each form and attachments that are being submitted for your files.

☐ Have all assumptions, calculations, estimates, measurements, and other backup information on file that document amounts reported to be source-reduced and/or waste-minimized.

It is not necessary to send in this checklist.

Chapter 5 — Instructions for Completing the Optional Forms

The following pages will guide you in completing optional forms. Completing pages one and two of the Source Reduction and Waste Minimization Annual Progress Report (SR/WM Report) meets all of the requirements of the Waste Reduction Policy Act for LQG and/or TRI reporters.

WHY COMPLETE THE OPTIONAL FORMS?

TNRCC has prepared these forms to assist you in your pollution prevention planning process. Many companies have found preparing these forms beneficial.

- They assist companies in looking at their overall progress.
- Some facilities have different process areas; these forms help different process areas work together.
- The spreadsheets provide a useful format for demonstrating pollution prevention's value to management, and showing environmental progress to the community.
- By completing the optional forms you encourage a balance of activities in both source reduction and waste minimization.

You may complete whichever optional form(s) you find useful to your particular operation; completion of one optional part does not obligate you to complete any other optional part.

GENERAL INSTRUCTIONS FOR COMPLETING THE OPTIONAL FORMS

- All facilities are required to provide "unadjusted" data, i.e. the same data that is provided on the Annual Waste summary and TRI Form R. As optional information, adjusted data can be provided on Parts 4B and 4C of the report or additional attachments.
- Shaded areas on forms do not need entries.

- The thick-lined black boxes on the optional APR forms indicate entries that are transferred to another part of the APR forms.

- Refer to the tables in this chapter frequently when completing optional forms; following are some of the sources of information for the APR and how it is used.

Sources of Information for the Optional Forms of the SR/WM Report

Optional Form Section		Source
Part 2B	HW	Calculated from AWS
Part 2B	TRI	Calculated from Form R, section 5, 7a-7c (on-site) & section 6 (off-site)
Part 2C	HW	Directly from AWS
Part 2C	TRI	Calculated from Form R, section 5, 7a-7c (on-site) & section 6 (off-site)
Part 3 (Columns a-g)	HW	Row 1-Total all HW directly from AWS Row 2 & 5-Calculated on SR/WM Report Rows 3,4,6-Transferred Parts 2a, b, c of APR
Part 3 (Columns a-g)	TRI	Row 7-Total directly from all Form Rs, section 5 Rows 8, 13, 16, 17, 18-Calculated on APR Rows 9,10,11,14,15-Transferred from Parts 2a, b, c of SR/WM Report Row 12-Total directly form all Form Rs, section 6
Part 3 (Column h)		Calculated from SR/WM Plan (and possibly other parts of report)

NOR = Solid Waste Notice of Registration
AWS = Annual Waste Summary
Form R, TRI Form R = Toxic Release Inventory Form R

Other sources of information for calculated portions of SR/WM Report include (but are not limited to) facility or corporation engineering specifications guides, shipping manifest forms, and copies of contracts or agreements with off-site facilities that manage your wastes.

PART 2B — ON-SITE AND OFF-SITE WASTE MINIMIZATION ACTIVITIES

Waste minimization (WM) activities (i.e., recycling, energy recovery and treatment) are divided between on-site and off-site for both HW and TRI chemicals on the APR forms. Rows 11 to 15 are for on-site WM activities for both HW and TRI chemicals. Row 15 is the sum of rows 11 to

14. Enter off-site WM activities on rows 16 to 20. Row 20 is the sum of rows 16 to 19. Row 21 is the sum of on-site and off-site WM (row 15 plus row 20). Each row has two columns for activity entries: one for HW (Column A) and one for TRI (Column B).

Some "treatment" methods formerly listed under RCRA and TRI waste treatment codes may be counted toward waste minimization under WRPA[1], as long as the resulting "treatment" can be demonstrated to:

a. reduce the public health or environmental hazard associated with release or disposal of RCRA hazardous waste or TRI chemical; or
b. treat the hazardous waste generated to detoxify or neutralize it to remove the characteristic that made it hazardous (i.e., ignitability, reactivity, toxicity, corrosivity) under the Toxic Characteristic rule; or
c. reduce the quantity of the TRI releases or hazardous waste disposed.

For waste minimization of generated HW, the optional section of the Annual Waste Summary provides the basis for estimating and reporting. For example, an Annual Waste Summary shows that 1,000 tons of a HW was generated and all 1,000 tons were subject to M021 (system type code for solvents recovery, fractionalization/distillation). On the Annual Waste Summary, both the amount generated and the amount of waste handled by M021 are reported. However, the amount recycled (available for reuse) can be estimated for the SR/WM Annual Progress Report. The facility estimates that 90 percent of the solvent is recovered and made available for further use. For this case, 900 tons (1,000 tons * 90 percent efficiency) of this HW is waste minimized and would be reported on Part 2B.

The quantity of hazardous waste for each waste minimization activity can be estimated by taking the amount of the HW generated that was subject to the applicable system type codes used for completing the Annual Waste Summary multiplied times an efficiency factor. System type codes for Hazardous Wastes can be found on Table 6. Efficiency factors can be obtained based on process knowledge, measured quantities or from estimates supplied by the facility treating, recycling, or burning (for energy) the waste.

Table 6
System Type Codes for Hazardous Wastes

TO FILL OUT: SR/WM Annual Progress Report, Part 2B and 2C, Column A	USE INFORMATION FROM: Annual Waste Summary

[1] See "Avoiding Confusion between Federal and State Definitions and Reports" in Chapter 1.

Part 2B, rows 11 and 16 Recycle On-site & Off-site:	Metals Recovery (for Reuse) M011 High temperature metals recovery M012 Retorting M013 Secondary smelting M014 Other metals recovery for reuse: e.g., ion exchange, reverse osmosis, acid leaching, etc. (Specify in Comments) M019 Metals recovery-type unknown Solvents Recovery M021 Fractionation/distillation M022 Thin film evaporation M023 Solvent extraction M024 Other solvent recovery (Specify in Comments) M029 Solvents recovery -type unknown Other Recovery M031 Acid regeneration M032 Other recovery: e.g., waste oil recovery, nonsolvent organics recovery, etc. M039 Other recovery -type unknown
Part 2B, Rows 12 and 17 Energy Recovery On-site and Off-site:	Energy Recovery (Reuse as a fuel) M051 Energy Recovery Liquids M052 Energy Recovery Sludges M053 Energy Recovery Solids M054 Energy Recovery Type Unknown Fuel Blending M061 Fuel blending (If not blended and burned for energy recovery, use rows 14 and 19.)
Part 2B, Rows 13 and 18 Waste Treatment Codes:	Aqueous Inorganic Treatment M071 Chrome reduction followed by chemical precipitation M072 Cyanide destruction followed by chemical precipitation M073 Cyanide destruction only M074 Chemical oxidation followed by chemical precipitation M075 Chemical oxidation only M076 Wet air oxidation M077 Chemical precipitation M078 Other aqueous inorganic treatment: e.g., ion exchange, reverse osmosis, etc. M079 Aqueous inorganic treatment - type unknown Aqueous Organic Treatment M081 Biological treatment M082 Carbon adsorption M083 Air/stream stripping M084 Wet air oxidation M085 Other aqueous organic treatment M089 Aqueous organic treatment -type unknown

Table 6 Cont'd

Part 2B, Rows 13 and 18
Waste Treatment Codes:

Aqueous Organic and Inorganic Treatment

M091	Chemical precipitation in combination with biological treatment
M092	Chemical precipitation in combination with carbon adsorption
M093	Wet air oxidation
M094	Other organic/inorganic treatment (Specify in Comments)
M099	Aqueous organic and inorganic treatment- type unknown

Sludge Treatment

M101	Sludge dewatering
M102	Addition of excess lime
M103	Absorption/adsorption
M104	Solvent extraction
M109	Sludge treatment -type unknown

Stabilization

M111	Stabilization/Chemical fixation using cementitious and/or pozzolanic materials
M112	Other stabilization (Specify in Comments)
M119	Stabilization -type unknown

Other Treatment

M121	Neutralization only
M122	Evaporation only
M123	Settling/clarification only
M124	Phase separation (e.g., emulsion breaking, filtration) only
M125	Other treatment (Specify in Comments)
M129	Other treatment -type unknown

Part 2C, Rows 22 and 23

Note: Do not use any code or combination of codes in which detoxification or neutralization of a waste did not result.

Incineration

M041	Incineration - liquids
M042	Incineration - sludges
M043	Incineration - solids
M044	Incineration - gases
M049	Incineration - type unknown

[1]1995 TNRCC Annual Waste Summary (RG-151)

Table 7
Activity Codes for On-site TRI Chemical Releases

TO FILL OUT: SR/WM Annual Progress Report, Part 2B and 2C, Column B	USE INFORMATION FROM: TRI Form R[1]
Part 2B, Row 11 On-site Recycling:	TRI - On-site Recycling Processes-Section 7C R11 Solvents/Organics Recovery - Batch Still Distillation R12 Solvents/Organics Recovery - Thin-film Evaporation R13 Solvents/Organics Recovery - Fractionation R14 Solvents/Organics Recovery - Solvent Extraction R19 Solvents/Organics Recovery - Other R21 Metals Recovery - Electrolytic R22 Metals Recovery - Ion Exchange R23 Metals Recovery - Acid Leaching R24 Metals Recovery - Reverse Osmosis R26 Metals Recovery - Solvent Extraction R27 Metals Recovery - High Temperature R28 Metals Recovery - Retorting R29 Metals Recovery - Secondary Smelting R30 Metals Recovery - Other R40 Acid Regeneration R99 Other Reuse or Recovery
Part 2B, Row 12 On-site Energy Recovery: Note: Wastes used as fuel for energy recovery must have BTU value greater than 5,000 BTU's/lb.	TRI - On-site Energy Recovery Processes-Section 7B U01 Industrial Kiln U02 Industrial Furnace U03 Industrial Boiler U04 Other Energy Recovery Methods
Part 2B, Row 13 On-site Treatment:	TRI - Solidification/Stabilization G01 Cement Processes (including silicates) G09 Other Pozzolonic Processes (including silicates) G11 Asphaltic Processes G21 Thermoplastic Techniques G99 Other Solidification Processes TRI - Air Emissions Treatment Codes-Section 7A A01 Flare A02 Condenser A03 Scrubber A04 Absorber A05 Electrostatic Precipitator A06 Mechanical Separation A07 Other Air Emission Treatment TRI - Biological Treatment-Section 7A B11 Biological Treatment - Aerobic B21 Biological Treatment - Anaerobic B31 Biological Treatment - Facultative B99 Biological Treatment - Other

Table 7 Cont'd Part 2B, Row 13 On-site Treatment:	TRI - Chemical Treatment-Section 7A C01 Chemical Precipitation - Lime or Sodium Hydroxide C02 Chemical Precipitation - Sulfide C09 Chemical Precipitation - Other C11 Neutralization C21 Chromium Reduction C31 Complexed Metals Treatment (other than pH adjustment) C41 Cyanide Oxidation - Alkaline Chlorination C42 Cyanide Oxidation - Electrochemical C43 Cyanide Oxidation - Other C44 General Oxidation (including Disinfection) - Chlorination C45 General Oxidation (including Disinfection) - Ozonation C46 General Oxidation (including Disinfection) - Other C99 Other Chemical Treatment TRI - Physical Treatment-Section 7A P01 Equalization P09 Other Blending P11 Settling/Clarification P12 Filtration P13 Sludge Dewatering (non-thermal) P14 Air Flotation P15 Oil Skimming P16 Emulsion Breaking - Thermal P17 Emulsion Breaking - Chemical P18 Emulsion Breaking - Other P19 Other Liquid Phase Separation P21 Adsorption - Carbon P22 Adsorption - Ion Exchange (other than for recovery/reuse) P23 Adsorption - Resin P29 Adsorption - Other P31 Reverse Osmosis (other than for recovery/reuse) P41 Stripping - Air P42 Stripping - Steam P49 Stripping - Other P51 Acid Leaching (other than for recovery/reuse) P61 Solvent Extraction (other than for recovery/reuse) P99 Other Physical Treatment
Part 2B, Row 22 On-site Incineration: Note: Do not use codes F01 to F99 for reporting as on-site waste minimization. Report separately on SR/WM Annual Progress Report form, Part 2C.	TRI - Incineration/Thermal Treatment-Section 7A F01 Liquid Injection F11 Rotary Kiln with liquid Injection unit F19 Other Rotary Kiln F31 Two Stage F41 Fixed Hearth F42 Multiple Hearth F51 Fluidized Bed F61 Infra-Red F71 Fume/Vapor F81 Pyrolytic Destructor F82 Wet Air Oxidation F83 Thermal Drying/Dewatering F99 Other incineration/Thermal Treatment

[1] From the 1994 version of Toxic Chemical Release Inventory Reporting Form R and Instructions, EPA 745-K-95-051, Appendix B, pp.B-4, B-5

Table 8
Activity Codes for Off-site TRI Chemical Transfers

TO FILL OUT: SR/WM Annual Progress Report, Part 2B and 2 C, Column B	**USE INFORMATION FROM: TRI Form R, Section 6[1]**
Part 2B, ROW 16 Off-site Recycling:	TRI - Type of Waste Treatment/Disposal/Recycling/Energy Recovery-Section 6 M20 Solvents/Organics Recovery M24 Metals Recovery M26 Other Reuse or Recovery M28 Acid Regeneration M93 Transfer to Waste Broker - Recycling
Part 2B, Row 17 Off-site Energy Recovery:	TRI - Type of Waste Treatment/Disposal/Recycling/Energy Recovery-Section 6 M56 Energy Recovery M92 Transfer to Waste Broker - Energy Recovery
Part 2B, Row 18 Off-site Treatment:	TRI - Type of Waste Treatment/Disposal/Recycling/Energy Recovery-Section 6 Note: Do not use any code or combination of codes in which detoxification or neutralization of a waste did not result. Note: Report amounts treated in POTW under "Other Treatment, off-site", column (B), row 19. M40 Solidification/Stabilization M61 Wastewater Treatment (excluding POTW)[1] M69 Other Waste Treatment M95 Transfer to Waste Broker - Waste Treatment
Part 2B, Row 23 Off-site Incineration/Thermal Oxidation:	TRI - Type of Waste Treatment/Disposal/Recycling/Energy Recovery M50 Incineration/Thermal Treatment

[1] From the 1994 version of Toxic Chemical Release Inventory Reporting Form R and Instructions, EPA 745-K-95-051, Appendix B, pp.B-4, B-5

Attention: Do not use the following TRI Type of Waste Treatment/Disposal/Recycling/Energy Recovery Codes for Part 2B, "Off-site Waste Minimization Activities":

M10 - Storage Only
M50 - Incineration/Thermal Treatment
M54 - Incineration/Insignificant Fuel Value
M71 - Underground Injection
M72 - Landfill/Disposal Surface Impoundment
M73 - Land Treatment
M79 - Other Land Disposal
M90 - Other Off-site Management
M94 - Transfer to Waste Broker - Disposal
M99 - Unknown

Important — On-site and Off-site Reporting

The estimated quantity of TRI chemicals for each waste minimization activity (recycling, energy recovery, and treatment) can be derived from what was reported in Section 8 of Form R. Note that in the TRI Form R, ***on-site*** waste minimization activities are reported in the same manner as for this report (i.e., using an efficiency factor), while the ***off-site*** waste minimization activities are reported excluding the efficiency factor. Activity codes are also used in conjunction with Form R reporting. On-site activity codes for TRI chemicals are included on Table 7. Table 8 includes codes used for off-site transfers.

Be careful with waste minimization estimates. For example, the waste minimization total should not be greater than waste generated. The only exception to this is in cases where waste generated one year is waste minimized the next year. For clarity, several examples follow:

Example 5.1 — (HW) Hazardous Wastewater That is Treated in Sequential Tanks

A facility generates 1 million tons of hazardous wastewater, which is treated in five sequential tanks. On the Annual Waste Summary, the facility would report 1 million tons generated and 1 million tons treated in each of five units.

For purposes of the SR/WM Annual Progress Report, the facility would only report 1 million tons as treated.

Example 5.2 — (TRI) Toxic Chemical That is Treated and Then Recycled

A facility treats wastewater containing nickel compounds and removes the nickel with a 99 percent efficiency. The facility then further reclaims the nickel and makes it available for continued use in the manufacturing process.

The company completed the TRI Form R, and reported the following:

- treatment of the wastewaters with a 99 percent efficiency for the removal of nickel in Section 7C (of Form R);
- the method of recovery for the nickel in Section 7C (of Form R); and
- only the amount of nickel made available for further use after reclamation as a quantity recycled on-site in Section 8.4 (Form R).

Likewise, the facility would only report the amount of nickel made available for further use under "recycling on-site" (column B, row 11) and would not report anything under treatment (column B, row 13) in the SR/WM Annual Progress Report.

Example 5.3 — (HW) Hazardous Waste That is Treated and Then Recycled

A facility treats wastewater "A" containing nickel compounds and removes the nickel with a 99 percent efficiency. The resulting nickel precipitate is hazardous and is coded as waste "B." Waste "B" is then further reclaimed and the nickel is made available for continued use in the manufacturing process. In this example, the waste would be counted twice as waste minimized since it will be reported as generated twice in the Annual Waste Summary.

The facility completed the Annual Waste Summary, and reported two different wastes as generated; each waste was reported as managed by either a treatment code (Waste A) or a recycling code (Waste B).

Likewise on the SR/WM Annual Progress Report, Waste A would be included under treatment (column A, row 13) and Waste B would be included under recycling (Column A, row 11).

In conclusion, the same "unit" of waste cannot be listed under two different waste minimization activities (rows). However, in some cases a "unit" of waste may be reported in both columns (and the same row). This would occur if a material is classified as both a TRI chemical and a hazardous waste.

Hazardous Waste Minimized On-site (Column A, Rows 11 to 15)

The estimated amount of hazardous waste minimized on-site is partially obtained from the Annual Waste Summary. The Annual Waste Summary provides information on how much HW entered recycling, energy recovery, and treatment processes, but not the amount recovered from recycling or combusted for energy recovery or destroyed during treatment. The estimated amounts of HW waste minimized to be entered on rows 11 to 15 can be based on waste minimization efficiency factors and quantities reported on the Annual Waste Summary. The efficiency factors can be estimated or based on measured quantities. These factors can also be reasonable estimates using good engineering judgement.

Include amounts of all wastes subject to each WM activity. Do not include quantities on rows 11 to 14 associated with the following activities and system type codes from your Annual Waste Summary:

- Disposal, M131 to M137
- Storage, M141
  Note: Use M141 (storage) as waste minimization only if waste minimization occurs during report year.
- Incineration, M041 to M049 (reported on Part 2C, row 22, Column A)

Row 15, the total amount waste minimized on-site is the sum of rows 11 to 14.

Column A, Row 11 (HW Recycle On-site) — Report total quantity of hazardous wastes recycled - use system codes M011 to M039 on-site. Do not include any closed-loop recycling; closed-loop recycling should be reported in the source reduction part. The quantity recovered is the amount entering the recycling unit (reported on the annual waste summary) times the recycling efficiency factor. For example, if 100 tons of HW were sent to a recycling process (reported 100 tons for system type code M021, solvent recovery, on the Annual Waste Summary) and an average of 50 percent was recovered for reuse, the amount reported recycled on-site is 50 tons (50 percent of 100 tons).

Column A, Row 12 (HW Energy Recovery On-site) — Report total quantity of hazardous wastes combusted for energy recovery - use system codes M051 to M059 only for HW with a heat value greater than 5,000 Btu per pound. The amount of waste destroyed during the combustion and recovery process is the amount entering the combustion unit (amount reported on Annual Waste Summary) multiplied by the combustion efficiency factor. For example if 400 tons of waste enters the combustion unit and 10 percent remains as uncombusted residue, the total amount actually combusted is 400 - (0.1)(400) = 360 tons. This value (360 tons) is then reported in Column A, Row 12.

Column A, Row 13 (HW Treatment On-site) — Quantity of hazardous waste generated that was treated (detoxified or neutralized) such that the characteristic that made it hazardous (i.e., ignitability, reactivity, toxicity, corrosivity under the toxic characteristic rule) was removed. Do not use system codes M011 to M061 and M131 to M141. Use codes M071 to M129 that apply. The amount of hazardous wastes destroyed and reduced is the amount of waste reported on the Annual Waste Summary times the treatment efficiency factor.

Column A, Row 14 (HW Other On-site WM Activities) — Quantity of hazardous waste generated that was recycled, used for energy recovery, or treated (detoxified or neutralized) for which a system code does not exist. Do not report any quantities for activities covered by "other" system codes (e.g., don't report M078, M085, M112, and M121 to M129 on this row).

Column A, Row 15 (HW Sum of On-site WM Activities) — Report the sum of rows 11 to 14.

Example 5.4 — On-site Waste Minimization of HW (Part 2B, Column A, Rows 11 to 14)

A total of 1,000 tons of HW "A" was reported as generated on the Annual Waste Summary. Five hundred tons of HW "A" was combusted for energy recovery (90 percent combusted) and the remaining uncombusted waste was disposed of. Approximately 300 tons of HW "A" was sent to an on-site recycling unit and the unit recovered 50 percent or 150 tons of reusable material. The recycling unit generated 100 tons of HW " B" which was treated to destroy the characteristics that made it hazardous. For the SR/WM report the following information would be entered on Part 2B, column A:

Row 11 (recycle)	150 (300 tons * 50 percent = 150 tons)
Row 12 (energy recovery)	450 (500 tons* 90 percent = 450 tons)
Row 13 (treatment)	100 (100 tons after recycling was treated, hazard destroyed)
Row 14 (other)	0 (no "other" on-site WM)
Row 15 (total)	700 (sum of row 11 to 14)

TRI Waste Minimized On-site (Column B, Rows 11 to 14)

Report the estimated quantity of TRI chemicals that were recycled, used for energy recovery, and treated (toxic characteristic destroyed) on-site. Since the TRI on-site WM activities are reported using efficiency factors, the TRI Form R data can be used directly except for data reported as "treatment" (Section 8.6). Data reported under treatment on the Form R includes incineration; whereas in the SR/WM Annual Progress Report incineration is accounted for separately (Row 22). Refer to Table 7 for a list of on-site TRI codes and how these relate to filling out this section.

Column B, Row 11 (TRI Recycle On-site) — Report quantity of TRI chemicals reported on TRI Form R, Section 8.4. This is the quantity that was recovered and made available for further use at the facility, not the quantity that entered a recycling or recovery operation. This quantity may be greater than the actual amount of the toxic chemical managed at the facility, depending on how the facility reported. For example, a plant uses a total of 10 tons of TCA for cleaning and other purposes and reuses it multiple times during the reporting year. The toxic chemical is recycled in batches for a total of fifteen batches, resulting in approximately 150 tons of recycled chemical during that year. The quantity (150 tons) is much greater than the amount of the toxic

chemical that was actually used at the facility, but is the proper method of reporting on Form R Section 8.4 because it reflects the amounts of TCA wastes that were managed at the facility during the reporting year. Note, however, that if the recycling operation was "in process" or "closed loop" it would not be reported as recycled in either the TRI or WRPA program. Rather, it would be counted towards source reduction.

Column B, Row 12 (TRI On-site Energy Recovery) — Report total quantity of TRI chemicals reported on TRI Form R, section 8.2. This is the actual quantity combusted for the purpose of energy recovery on-site. The reported toxic chemical has to have a heating value high enough to sustain combustion ($\geq$ 5,000 Btu/lb) in some form of energy recovery device, such as a furnace or boiler. Metals or metal compounds should not be reported as combusted for energy recovery because the parent materials do not contribute any heating value to the wastes being combusted.

The amount reported should be the amount actually destroyed in the combustion process, not the amount that entered the energy recovery unit. For example, if 10 tons of toluene enter a boiler that on the average combusts 95 percent of the toluene (the remaining toluene is discharged to the air), a total of 9.5 tons is reported as combusted for energy recovery. The remaining 0.5 tons is reported as released to the air.

Column B, Row 13 (TRI Treatment On-site) — Report the total quantity of TRI chemicals reported on TRI Form R, Section 8.6 (except for incineration/thermal oxidation), that was destroyed in on-site treatment operations, not the amount that entered a treatment operation. See Table 7 for a list of treatment codes that apply. *Do not include quantities reported in 8.6 for incineration/thermal oxidation activities on row 13*. Report incineration/thermal oxidation on row 22.

Column B, Row 14 (TRI Other On-site WM Activities) — Report total quantity of TRI chemicals that were destroyed, but not reported on TRI Form R, Section 8.2, 8.4, or 8.6. Quantities of toxic chemicals that were recycled, combusted for energy recovery, or otherwise destroyed as result of non-routine, production related activities should be reported here.

Column B, Row 15 (TRI Sum of On-site WM Activities) — Report the sum of rows 11 to 14.

Example 5.5 — On-site Waste Minimization of TRI (Part 2B, Column B, Rows 11 to 14)

The following quantities were reported on Form R, section 8.2 (energy recovery) was 20 tons, section 8.4 (recycling) was 2,500 tons, and section 8.6 (treatment) was 1,700 tons. Five hundred tons of the material reported under Section 8.6 (treatment) was incinerated. An additional 5 tons of a TRI chemical was recycled (100 percent reuse), but it resulted from a non-production related spill. For the SR/WM annual report, enter the following information on Part B, column B:

Row 11 (recycle)	2,500 tons (same as Form R, section 8.4)
Row 12 (energy recovery)	20 tons (same as Form R, section 8.2)
Row 13 (treatment)	1,200 tons (Form R, section 8.6 minus the quantity incinerated)
Row 14 (other)	5 tons (not reported on Form R)
Row 15 (total)	3,725 tons (sum of rows 11 to 14)
Row 22 (incineration)	500 tons (quantity incinerated and reported in Section 8.6)

Hazardous Waste Minimized Off-site (Column A, Rows 16 to 20)

Quantities of hazardous waste that were sent off-site to be recycled, combusted for energy recovery, and treated (destroyed, detoxified, or neutralized) are reported on rows 16 to 19. The amount of hazardous waste sent off-site is obtained from the Annual Waste Summary and manifests. Since the Annual Waste Summary and manifests do not indicate the quantity of HW that is recovered, destroyed, etc. after transfer off-site, efficiency factors can be used in the same fashion as for estimating on-site waste minimization. Refer to the part of the instructions on the preceding pages for reporting on-site waste minimization using efficiency factors for estimates. The total amount waste minimized off-site, row 20, is the sum of row 16 to 19.

Use RCRA "system type" codes for recycling, energy recovery, and treatment given in Table 6 that are used on the Annual Waste Summary. Do not report on rows 16 to 19 any quantities associated with any of the following system type codes:

- Disposal, M131 to M137
- Storage, M141
- Incineration, M041 to M049 - Report quantities incinerated on row 23.

Column A, Row 16 (HW Recycle Off-site) — Report estimated quantity of hazardous wastes recovered from off-site recycling, not the amount that left the facility and entered the recycling operation, for off-site activities associated with system codes M011 to M039. The quantity recovered can be estimated by the amount sent off-site to be recycled (reported on Annual Waste Summary) multiplied times a recycling efficiency factor.

Column A, Row 17 (HW Energy Recovery Off-site) — Report the estimated quantity of HW that was actually combusted at the off-site location, not the amount sent off-site for the purposes of energy recovery. The amount sent off-site is reported on the Annual Waste Summary for system codes M051 to M059. A combustion efficiency factor could be multiplied times the amount that was sent off-site for the purpose of energy recovery to provide an estimate of how much waste was combusted for energy recovery.

Wastes sent off-site to be burned for energy recovery must be able to sustain combustion and should have a heat value greater than 5,000 Btu per pound. Do not report any amounts of HW that were incinerated on row 17. Use row 23 to report off-site HW incineration.

Column A, Row 18 (HW Treatment Off-site) — Report the estimated quantity of hazardous waste that was treated or reduced off-site, not the amount that left the facility to be treated off-site. The amount of HW sent off-site to be treated and the type of treatment activity is reported on the Annual Waste Summary. The amount of HW that left the facility for the purpose of treatment can be multiplied times a treatment efficiency factor for the off-site treatment processes in order to estimate amount of HW destroyed or reduced.

For the purpose of reporting on this row, WM due to treatment can be included if the treatment destroys the characteristic that made it hazardous (i.e., ignitability, reactivity, toxicity, corrosivity under the toxic characteristic rule) was removed as a result of the treatment activity. Do not report wastes treated by activities associated with system type codes M011 to M061 and M131 to M141. Use treatment activities associated with system type codes M071 to M129, as applicable.

Do not include any amounts incinerated in row 18. Include off-site incineration on row 23.

Column A, Row 19 (HW Other WM Activities Off-site) — Estimate the quantity of hazardous waste generated that was sent off-site to be recycled, used for energy recovery, or treated (hazard destroyed, detoxified or neutralized) for which a system code does not exist. Do not report any quantities for activities covered by "other" system codes (e.g., do not report M078, M085, M112, and M121 to M129 on this row). Be sure to estimate the amount of HW recovered or destroyed in the same manner as done for rows 16 to 18 (i.e., use an efficiency factor).

Column A, Row 20 (HW Sum of Off-site WM Activities) — Report the sum of quantities reported in rows 16 through 19.

Column A, Row 21 (HW Sum of WM Activities) — Report the sum of quantities reported in rows 15 and 20.

Example 5.6 — Off-site Waste Minimization of HW (Part 2B, Column A, Rows 16 to 19):

A total of 100 tons of a characteristically hazardous waste was generated at a facility. All 100 tons were sent off-site for recycling. On the average, about 75 tons of the material is recovered. The remaining 25 tons are treated to remove the hazardous characteristics. The treatment operation leaves 5 tons of hazardous sludge for disposal.

Row 16 (recycle):	75 (100 tons * 75 percent= 75 tons)
Row 17 (energy recovery):	NA (none sent to energy recovery)
Row 18 (treatment):	20 (25 tons remain after recycling that was treated to non-hazardous, but 5 tons remained that would be further managed or disposed of; 25-5= 20 tons)
Row 19 (other):	NA (none)
Row 20 (total):	95 tons

TRI Chemicals Waste Minimized Off-site (Column B, Rows 16 to 20)

This section includes quantities of TRI chemicals transferred off-site for recycling, energy recovery, and treatment. Refer to amounts reported on Form R, Sections 8.5, 8.3, and 8.7 as a basis for estimating amounts for row 16 to 19. In the TRI reporting system, off-site waste minimization activities do not include efficiency factors, whereas on-site waste minimization activities do include efficiency factors. Therefore, in completing this SR/WM Annual Progress Report, it will be necessary to use the efficiency factor in conjunction with what is reported on the Form R to estimate quantities of TRI chemicals waste minimized off-site. In addition, do not include any amounts incinerated in rows 16 to 19. Report amounts incinerated off-site on row 23.

Column B, Row 16 (TRI Recycle Off-site) — This is the estimated quantity of TRI chemical actually recovered at the off-site location for further use. The quantity reported on TRI Form R, Section 8.5 is the quantity that is sent off-site for the purpose of recycling, not the amount recovered. The amount recovered can be estimated using a recycling efficiency factor multiplied by the amount reported on the TRI Form R, Section 8.5.

Column B, Row 17 (TRI Energy Recovery Off-site) — This is the estimated quantity of TRI chemical actually combusted at the off-site location, not the amount that was sent off-site for the purposes of energy recovery. The quantity reported on TRI Form R, Section 8.3. is the amount of toxic chemical that left the facility boundary, not the amount actually combusted at the off-site location. A combustion efficiency factor, defined here as the fraction of material actually combusted, will need to be estimated. This factor multiplied times the quantity reported on Form R, section 8.3 provides an estimate of how much waste was actually combusted for energy recovery. Note that for purposes of this report, if a chemical is combusted, but does not contribute energy to the process (e.g., metals, chlorofluorocarbons), it should not be reported as burned for energy recovery. Rather, it should be reported as incinerated (Rows 22 or 23).

Column B, Row 18 (TRI Treatment Off-site) — This is the estimated quantity of TRI chemicals that were destroyed by off-site treatment, not the amount sent off-site for the purposes of treatment. On Form R, section 8.7, the quantity that left the facility boundary to go to a publicly-owned treatment works (POTW) or other off-site treatment is reported. To obtain an estimate for off-site treatment for purposes of this report, two differences need to be accounted for. First, any amount incinerated and reported in Section 8.7 is subtracted from the amount reported in Section 8.7. Report the amount incinerated off-site separately in Row 23. Second, a treatment efficiency factor is estimated and then multiplied by the quantity treated (excluding incineration). This gives an estimate of the quantity of TRI chemicals treated off-site for purposes of this report.

Column B, Row 19 (TRI Other WM Off-site) — Report total quantity of TRI chemicals that were recovered or destroyed when sent off-site for the purpose of recycling, combustion for energy recovery, or treatment, but not reported on rows 16 to 18. The quantities estimated for this row would be for TRI chemicals (for which transfers occurred) in conjunction with non-routine, non-production related activities.

Column B, Row 20 (TRI Sum of Off-site WM Activities) — Report the sum of quantities reported in rows 16 to 19.

Column B, Row 21 (TRI Sum of WM Activities) — Report the sum of quantities reported in rows 15 and 20.

Example 5.7 — Off-site Waste Minimization of TRI (Part 2B, Column B, Rows 16 to 19)

The following quantities were reported on Form R, section 8.3 (energy recovery) was 100 tons, section 8.5 (recycling) was 1,000 tons, and section 8.7 (treatment) was 3,000 tons. Of the 3,000 tons "treated," 1,000 tons was incinerated. The facility then obtained estimates from the off-site facility for the efficiencies of each of the processes. Estimated efficiencies were: combustion efficiency = 90 percent; recycling efficiency = 75 percent; treatment (excluding incineration) efficiency = 80 percent; and incineration efficiency = 98 percent. For the SR/WM Annual Progress Report, enter the following information on column B:

Row 16 (recycle):	750 tons (0.75*1000)
Row 17 (energy recovery):	90 tons (0.9*100)
Row 18 (treatment):	1,600 tons [0.8*(3000-1000)]
Row 19 (other WM):	NA tons (nothing to report)
Row 20 (total off-site WM):	2440 tons (sum of rows 16 to 19)
Row 23 (incineration):	980 tons (0.98*1000)

PART 2C — ON-SITE AND OFF-SITE INCINERATION

The quantity of waste incinerated are reported for on-site and off-site for HW and TRI chemicals. Row 22 is for on-site incineration for both HW and TRI chemicals. Row 23 is for off-site incineration. Each row is has two columns for entries. The estimated quantity (tons) of HW that were incinerated on-site is entered on row 22, off-site is entered on row 23, in column A. The estimated quantity (tons) of TRI chemicals that were incinerated on-site is entered on row 22, off-site is entered on row 23, in column B.

On-site Incineration Activities

Column A, Row 22 (HW Incinerated On-site) — Provide the estimated amount of hazardous waste destroyed by on-site incineration. The amount of waste that was destroyed by incineration can be estimated by multiplying an incineration efficiency factor times the amount to be incinerated on-site. The amount incinerated should not be included in amounts on rows 11 to 15.

Column B, Row 22 (TRI Incinerated On-site) — Provide the amount of toxic chemicals that were destroyed by incineration on-site. The amount of TRI chemical that was destroyed by incineration can be estimated by multiplying an incineration efficiency factor times the amount incinerated on-site. The amount incinerated should not be included in amounts on rows 11 to 15.

Off-site Incineration Activities

Column A, Row 23 (HW Incinerated Off-site) — Provide the estimated amount of hazardous waste destroyed by off-site incineration. The amount of waste that was destroyed by incineration can be estimated by multiplying an incineration efficiency factor times the amount sent off-site to be incinerated. The amount incinerated should not be included in amounts on rows 16 to 21.

Column B, Row 23 (TRI Incinerated Off-site) — Provide the estimated amount of toxic chemicals destroyed by off-site incineration. The amount of TRI chemical that was destroyed by incineration can be estimated by multiplying an incineration efficiency factor times the amount to be incinerated off-site. The amount incinerated should not be included in amounts on rows 16 to 19.

PART 3 — FACILITY PROGRESS (UNADJUSTED)

Part 3 of the SR/WM Annual Progress Report is a one page, five-year summary of HW and TRI reductions achieved by a facility. It also provides information on a facilities future reduction goals.

Important — Double-Check Unadjusted Data

Please note that lines 1, 7, 12 and 17 consist entirely of unadjusted data; that is, the total hazardous waste reported as generated on your Annual Waste Summary and the total TRI reported as releases and/or transferred on your Form R. Please double check this prior to submitting your APR.

Most of Part 3 is completed using information already available from the Annual Waste Summary, TRI Form R, and Part 2A, 2B, and 2C. The dark, thick black-lined boxes in Part 2A, 2B, and 2C indicate that the amount entered in the box is transferred to the appropriate row and column on Part 3. The table on the next page shows what information gets transferred from Part 2 to Part 3.

Except for the information to be provided in the header (Report Year, Report Date, EPA ID#, etc.), only four columns (A, B, C, H) of data are completed on Part 3 for the initial SR/WM Annual Progress Report. For the second-year report, column D on Part 3 is completed.

Black Box Location on Parts 2A, 2B, and 2C	**Where Transferred to in Part 3, Column (C)[1]**
Part 2A, Row 9, Column A	Part 3, Row 3
Part 2A, Row 9, Column B	Part 3, Row 9
Part 2B, Row 15, Column B	Part 3, Row 10
Part 2B, Row 20, Column B	Part 3, Row 14
Part 2B, Row 21, Column A	Part 3, Row 4
Part 2B, Row 22, Column B	Part 3, Row 11
Part 2B, Row 23, Column B	Part 3, Row 15
Part 2C, Row 24, Column A	Part 3, Row 6
[1]Enter Column C for initial report. For second report, enter column D, etc. until the fifth year, which uses Column G.	

Base Year (Column A) — The base year, which is 1987, is entered in Column A. No base year other than 1987 can be used unless the facility had no reporting requirement for 1987. If the facility reported TRI releases/transfers on Form R and reported HW generated on the Annual Waste Summary in 1987, then 1987 must be used. If a facility did not report HW generation on the Annual Waste Summary or TRI releases/transfers on Form R (i.e., not in operation during 1987 or no Annual Waste Summary or TRI Form R reporting requirement applied to the facility in 1987) then the first full calendar year of operation should be used as the base year (assumes Annual Waste Summary and/or TRI Form R required to be submitted for the same year). For example, a facility that did not begin operation until November 1990 can use 1991 as the base year.

Note: Base year for hazardous waste may be different from base year for TRI. Please note this on form and/or cover letter.

For the base year, the following data is reported in Column A, Rows 1, 7, and 12:

- Row 1: The total amount of hazardous waste generated (in tons) in the base year from the annual waste summary (total of waste streams coded as hazardous),
- Row 7: The total amount of on-site TRI releases from TRI Form R, Section 5, and
- Row 12: The total amount of off-site TRI transfers from Form R, Section 6.

It is important to note that until 1991, Section 6 data on TRI Form R was for transfers to POTWs, off-site treatment, and disposal. Beginning in 1991, amounts sent off-site for recycling and burning for energy recovery had to also be reported in Section 6, in addition to what was reported previously. For base year 1987 TRI transfers reported on row 12, column A, only include the amount transferred based on regulations in place during the base year. Amounts reported in column A should not be adjusted, but reflect the regulations, production levels, etc. in place during the base year. If you have officially amended quantities reported on your facility's Annual Waste Summary or TRI Form R for 1987, use the most recent amended amount. Optional adjustments for 1987 or other base year amounts of HW generated and TRI releases/transfers will only be allowed on Parts 4B and 4C. For instance, if the quantities reported for 1987 by your facility are "not reliable" or "questionable," they can be adjusted by completing the optional Parts 4B and 4C (see How to Make Baseline Adjustments), but data presented in Section 3 must be actual unadjusted data.

Prior Year (Column B) — This is the year that precedes the year that the SR/WM plan and initial executive summary were in place. For example, if a facility developed the SR/WM plan by the January 1, 1994 deadline, the "PRIOR YEAR" is 1993. Refer to the table below for "PRIOR YEAR" based on plan deadlines.

SR/WM Plan Due Date	Prior Year
July 1, 1993	1992
January 1, 1994	1993
January 1, 1995	1994
January 1, 1996	1995
January 1, 1997	1996

Rows 1, 7, and 12 will include information on hazardous waste generated and TRI released/transferred as discussed in the preceding section. Again this data should be consistent with the most recent data submitted on the Annual Waste Summary and TRI Form R's for the given year. For example, if the preceding year is 1992, and 1,346,000 tons of hazardous waste was reported on the Annual Waste Summary for 1992 (total of all streams coded as hazardous), then Row 1 Column B should also show 1,346,000 tons. Note also that wastewater classified as hazardous under the new Toxic Characteristic rules of 1990 should be included in both the Annual Waste Summary and the SR/WM Annual Progress Report for reporting years in which the toxic characteristic rules apply.

First Report Year (Column C) — This is the year in which the plan was put into place (due). The following list shows source of data to be reported and calculations to be made for Part 3, rows 1 -18:

Row	Source of Information	Calculation Formula
1	Annual Waste Summary	Sum of all HW generated
2		Column B, row 1 minus column C, row 1
3	Part 2A, row 9, column A	
4	Part 2B, row 21, column A	
5		Part 3 , row 3 + row 4, column C
6	Part 2C, row 24, column A	
7	TRI Form R, Section 5	Sum of all TRI chemicals released on-site
8		Column B row 7 minus column C row 7
9	Part 2A, row 9, column B	
10	Part 2B, row 15, column B	
11	Part 2C, row 22, column B	
12	TRI Form R, Section 6	Sum of all TRI chemicals transferred off-

Row	Source of Information	Calculation Formula
13		Column B row 12 minus column C row 12
14	Part 2B, row 20, column B	
15	Part 2C, row 23, column B	
16		Part 3 , row 7 + row 12, column C
17		Part 3 , row 10 + row 14, column C
18		Part 3 , row 9 + row 17, column C

Second through Fifth Report Year (Columns D through G) — This section is filled out each subsequent year of the plan, consistent with the descriptions given for Column C.

Projected Amounts through Fifth Year (Column H) — Estimated quantities are to be provided for each of the following rows: 1, 3, 4, 9, 16, and 17. The quantities to be reported are estimates based on source reduction goals and waste minimization goals included in the facility's SR/WM plan and executive summary. This column provides the following information:

Row	What It Provides
1	Estimate of hazardous waste generation the fifth year. (ie., What you will report as generated on your Annual Waste Summary in that year only.)
3	Estimate total amount of hazardous wastes to be source-reduced over the five-year period (i.e., Year 1 source-reduced+year 2 source-reduced+year 3 source-reduced+year 4 source-reduced+year 5 source-reduced.)
4	Estimate total amount of hazardous wastes to be waste minimized on-site and off-site over the five year period (i.e., Year 1 waste minimized+year 2 waste minimized+year 3 waste minimized+year 4 waste minimized+year 5 waste minimized). *(Continued on next page)*
9	Estimate total amount of TRI chemicals (that have reportable releases/transfers) to be source-reduced over the five year period (i.e., Year 1 source-reduced+year 2 source-reduced+year 3 source-reduced+year 4 source-reduced+year 5 source-reduced).
16	Estimate total amount of TRI chemical releases and transfers the fifth year (i.e., What you will report as releases and transfers on your Form R in that year only.)
17	Estimate total amount of TRI chemicals (with reportable releases) waste minimized on-site and off-site over the five year period (i.e., Year 1 waste minimized +year 2 waste minimized+year 3 waste minimized+year 4 waste minimized+year 5 waste minimized).

PART 4 — DISCUSSION AND BASELINE ADJUSTMENTS

Part 4 provides an opportunity for facilities to report optional information regarding pollution prevention progress or the effects of regulations on pollution prevention efforts.

PART 4A — OPTIONAL INFORMATION

Companies may wish to discuss their pollution prevention activities. Sometimes a narrative is the best way to convey your successes. In this part you may want to bring up issues that the numbers alone do not show. For example, “We still report the same number of pounds in the TRI, but our new program switched from the highly toxic cyanide derivative to a less toxic ammonia derivative.” If you include more than one page of discussion, be sure to fill in the number of additional pages attached for Part 4A. Part 4A can be submitted without having to submit Part 4B and 4C.

PART 4B — OPTIONAL BASELINE ADJUSTMENT WORKSHEET

Making baseline adjustments are optional. The following information is provided to assist in completing Part 4B — Optional Baseline Adjustment Worksheet. If 4B is submitted, it is also necessary to submit 4C. These guidelines do not apply to any other federal or state program or reporting requirements. Important information on how to make adjustments is discussed below.

HOW TO MAKE BASELINE ADJUSTMENTS

Although the rules provide facilities the *option* to explain effects on conditions beyond their control on meeting reduction goals, or explain previous efforts to reduce pollution, (see Part 4A), it is difficult to quantify progress with narrative explanations. In order to provide "normalized" base year data with respect to changes in regulations and activities, facilities have the *option* to adjust baseline year data. TNRCC does not have authority under the rules or WRPA to require any facility to make adjustments to baseline data. However, the rules do require a comparison of the amount of HW generated and TRI releases/transfers provided on the initial SR/WM annual report with 1987 levels. For this reason, an optional section has been provided that allows facilities to adjust the base-year data to current conditions (e.g., regulations, production, etc.). The adjusted base year amount would possibly change each year a SR/WM Annual Progress

Report is submitted in order to be consistent with current regulations, production levels, and other factors.

Adjustments to baseline amounts are made at the facility's discretion, but "selective adjustments" will not be allowed. If a facility decides to adjust quantities of HW generated and/or TRI releases/transfers in a base-year, the facility must adjust for the same item as long as the five-year plan is in place, or as long as the adjustment had a significant affect on reduction progress. Furthermore, adjustments would have to be made for each item on Part 4B - Optional Baseline Adjustment Worksheet.

Adjustments Should Not Be Done on Part 3

Adjustments will be allowed to the base-year quantity of HW generated and TRI releases/transfers for the following reasons:

- Changes in regulations, definitions, and reporting requirements that have occurred since the base year (i.e., newly listed or delisted wastes, threshold reporting quantities or levels change),
- Significant changes in production (i.e., units that were in operation during the base year, startup of units after the base year, and permanent shutdowns of units operating in the base year),
- Accidental spills and one-time events not related to routine or production, and
- Better measurements, calculations, estimates, monitoring, or other related factors.

The purpose of adjustments of the base-year quantity of HW generated and TRI releases/transfers is to attempt to "normalize" the baseline amounts reported so that a "truer" representation of how much hazardous waste would have been generated and how much TRI releases/transfers would have occurred during the base year if source reduction and waste minimization activities had not occurred based on regulations and definitions in affect during the SR/WM reporting year.

Base year should be 1987 unless the facility had no TRI or HW reporting requirements in 1987 — See the previous section, Instructions for Completing Part 3, regarding the choice of base year under circumstances where a facility was not in operation or not required to report TRI or HW in 1987. The base year used in Part 3 should be the same year as used in Part 4B and 4C.

Total amounts reported for base year — The total quantity (tons) of hazardous waste generated and TRI releases/transfers at the facility should be equivalent to that reported in

Section 3, Column A, Row 1 (HW generated), Row 7 (TRI releases on-site), and Row 12 (TRI transfers off-site). These values can then be adjusted as described below.

Amount due to change in regulations or definitions — Report increase (+) or decrease (-) in quantities of HW generated or TRI chemicals releases/transferred that would have been generated in the base year if current reporting year regulations and definitions have been in effect in the base year.

Example 5.6 — HW

Five tons of HW were generated and reported on the Annual Waste Summary in 1987. In 1990, the toxic characteristic rule caused an additional 2 tons of HW generated to be reported on the Annual Waste Summary (that would have not been reported due to the toxic characteristic rule). If no other adjustments apply, the adjusted 1987 amount of HW generated would be 7 tons (5 tons + 2 tons).

Example 5.7 — TRI

On-site releases of 2 tons and off-site transfers of one ton were reported on Form R in 1987. In 1991, Form R reporting requirements changed such that now transfers off-site for the purpose of recycling and energy recovery are reported on Form R (which was not required to be done in 1987). In 1991, 1.5 tons of TRI chemicals were transferred off-site for recycling and energy recovery. The new 1987 TRI releases/transfers adjusted for regulations is 3.5 tons (2 tons + 1.5 tons). For this example, the 1.5 tons reported in 1991 was the first year the quantity for off-site recycling and energy recovery were reported, but the facility was not previously required to report quantities involved.

Amount due to significant change in production, unit startup or shutdown (+-) — Report amount of increase or decrease in HW generated and TRI releases/transfers associated with production changes that affect waste generation rates and quantity of TRI releases and transfers.

Amount due to accidental spills, one-time events, non-routine activities (+-) — These types of events that occur during the SR/WM report year should be added to the base-year quantity in order to cancel the effect of an increase in the reporting year. Also, for these types of events that occurred during the base year, the quantity should be subtracted from the base-year amount.

Amount due to other changes such as better measurements, calculations, estimates, monitoring (+/-) — This adjustment can be made to the amount of HW generated and TRI

releases/transfers for the base year. This allows a more accurate representation of what really happened during the base year. For example, a facility has installed new waste monitoring system and determined 15 percent less waste generation should have been reported in 1987. If they reported 10 tons in 1987, then the entry for row 8 would be 1.5 tons (10 tons *0.15) and the adjusted HW would be 8.5 tons. If the facility has already officially amended its previously submitted 1987 Annual Waste Summary, this adjustment should not be made but rather the amended amount would be entered in Part 3.

Baseline Adjustments, Net Total (+/-) — The sum of rows 5 to 8.

Adjusted Baseline Amount — The sum of rows 4 and 9. Note: this value will be transferred to Part 4C as described below.

PART 4C — FACILITY PROGRESS (ADJUSTED)

The only difference between Part 4C and Part 3 are the numbers in column A. Using adjusted base-year numbers from Part 4B, (row 10, columns A, B, and C), enter the adjusted numbers on Part 4C in column A, rows 1, 7, 12. Calculate column A, row 16 of Part 4 by adding rows 7 and 12 in Column A.

PART 4D — SUCCESS STORIES

The TNRCC is collecting "success stories" on the benefits of source reduction and waste minimization planning. These "success stories" may be used in future outreach efforts to help demonstrate the benefits of pollution prevention. The following is an example of a "success story" provided to the TNRCC:

> *An East Texas manufacturer found that while going through the required planning process that the plant could reduce TRI air emissions to below the threshold amounts for Title III and V air permitting. By spending about a month to do the source reduction and waste minimization plan, the facility operator saved an estimated four months of work on air permitting.*

Facility operators are encouraged to share success stories with the TNRCC. To do so, please use this form (and any additional pages as necessary). The numbers below refer to the questions on form 4D.

1. Benefits — Check any benefits the facility has gained from the SR/WM planning process.

2. Story — Describe projects undertaken, including what benefits were achieved, wastes involved, and other relevant information.

3. Number of Employees — Enter the total number of all full time employees at all sites of the company (see detailed instructions for Part 1, in chapter 3.)

4. Approval — Check one to indicate if the TNRCC can use the story in outreach materials.

Chapter 6 —Optional Forms

Required Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Part 1 - Facility Description Page 1 of ___

Report Year		Report Date	
Company Name include the site name if you have multiple facilities in Texas			
Name of Pollution Prevention Contact		EPA ID# (RCRA)	
Title		TRI ID #	
Mailing Address		TNRCC SW Reg. #	
City		Primary SIC Code	
State and Zip Code		Secondary SiC Code(s)	
		Number of Employees	
Telephone		Is your company independently owned or operated?	
Fax		E-Mail (optional)	
Enter date the SR/WM Plan was last revised. Attach an explanation of why it was revised.			
☐	Check box if this report revises a report previously submitted this or a previous year.		
☐	Check box if you are currently a member of the CLEAN INDUSTRIES 2000 program.		

Prepared By (Print or type name)	
Preparer's Title	
Preparer's Telephone Number	

Required Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Part 2 - Hazardous Waste and TRI Amounts for the Year Prior to the First Year of Your Plan

	Amount Reported in the Year Prior to the First Year of your Plan	**Prior Year**	Reported Quantities [1]	
			HW (A)	TRI (B)
1	Amount of hazardous waste generated in the Prior Year		Tons	
2	Amount of TRI releases and transfers in the Prior Year			Tons

Part 2A - Source Reduction Activities for Report Year

	Source Reduction Activities Estimate the amount of reductions in HW generated and TRI releases that occurred during the reporting year attributable to each of the source reduction activity categories listed below.	Estimated Quantities [1]	
		HW (tons) (A)	TRI (tons) (B)
1	Good operating practices		
2	Inventory control		
3	Spill and leak prevention		
4	Raw material modifications		
5	Process modifications		
6	Cleaning and degreasing		
7	Surface preparation and finishing		
8	Product modifications		
9	Total Amount Source Reduced (sum rows 1 through 8)		

Part 3R - Projected Amounts for Goal Year

	Projected Amounts for Goal Year (goal year is the fifth year the plan is in place)	Goal Year	Estimated Quantities [1]	
			HW (A)	TRI (B)
1	Goal (fifth) year projection - Amount HW Generated - TRI onsite releases plus off-site transfers		Tons	Tons
2	Total Amount source reduction over a five-year period		Tons	Tons
3	% Waste minimization for the goal year		%	%

Note: Submission of waste minimization information and information about HW generated and TRI releases and transfers for the previous reporting year is required by the Waste Reduction Policy Act. Most generators of hazardous waste meet this requirement through submission of their annual waste summary. If you have not completed the annual waste summary, you will need to complete Part 3 of the SR/WM optional forms and attach it to this page. Submission of Part 3 does not substitute for submission of the annual waste summary.

Company Name			
TRI ID# or EPA ID#		Report Date	

Part 2B - Onsite and Off-site Waste Minimization Activities

	Onsite Waste Minimization Activities Estimate quantities waste minimized onsite during the reporting year. See Part 2B instructions for important information. Do not include amounts incinerated onsite in rows 11 to 15.	Estimated Quantities * HW (tons) (A)	Estimated Quantities * TRI (tons) (B)
11	Recycle, onsite		
12	Energy Recovery, onsite		
13	Treatment, onsite		
14	Other onsite waste minimization activities (see instructions):		
15	Total Amount Onsite Waste Minimization (sum rows 11 through 14)		
	Off-site Waste Minimization Activities **Estimate quantities waste minimized off-site during the reporting year.** **See Part 2B instructions for important information. Do not include amounts incinerated off-site in rows 16 to 21.**		
16	Recycle, off-site		
17	Energy Recovery, off-site		
18	Treatment, off-site		
19	Other amount WM, off-site (specify and explain):		
20	Total Amount Off-site Waste Minimization (sum rows 16 through 19)		
21	Total Amount Waste Minimized, Onsite & Off-site (add rows 15 and 20)		

Part 2c - Onsite and Off-site Incineration

	Incineration - Onsite and Off-site Enter amounts incinerated onsite and off-site. Do not include amounts in Part 2B, rows 11 to 21.	Estimated Quantities * HW (tons) (A)	Estimated Quantities * TRI (tons) (B)
22	Total Amount Incinerated, Onsite		
23	Total Amount Incinerated, Off-site		
24	Total Amount Incinerated, Onsite & Off-site (add rows 22 and 23)		

* If actual quantity is greater than 10 tons, round off to nearest ton. If actual quantity is less than 10 tons, round off to nearest one-tenth ton.

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report Page 4 of ___

Company Name			
TRI ID# or EPA ID#		Report Date	

Part 3 - Unadjusted Facility Progress 6/17/97 I:\ppr\anreport\97rev\pt3_v2.frm

	Enter unadjusted quantities only. Use Parts 4B & 4C for reporting adjusted baseline data. Use Part 2A, 2B, and 2C for rows 3, 4, 6, 9-11, 14 and 15.	BASE YEAR (A)	PRIOR YEAR (B)	FIRST REPORT YEAR (C)	SECOND REPORT YEAR (D)	THIRD REPORT YEAR (E)	FOURTH REPORT YEAR (F)	FIFTH REPORT YEAR (G)	PROJECTED AMOUNTS THRU FIFTH YEAR (H)
	Fill in appropriate reporting years :								Year
	HAZARDOUS WASTES Estimated quantities. All units are tons.								
1	Amount HW Generated								tons
2	Amount Changed from Previous Entry(+/-)								
3	Reduction due to SR								tons
4	Waste Minimized, Onsite & Off-site								%
5	HW Pollution that was Prevented								
6	HW Incinerated, Onsite & Off-site								
	TRI RELEASES - Onsite & *Off-site* - Estimated quantities. All units are tons.								
7	TRI Releases, onsite								
8	Amount Changed from Previous Entry (+/-)								
9	Source Reduced, onsite								tons
10	Waste Minimized, onsite								
11	Incinerated, onsite								
12	*TRI Transfers, off-site*								
13	*Amount Changed from Previous Entry (+/-)*								
14	*Waste Minimized, off-site*								
15	*Incinerated, off-site*								
16	Total TRI Releases and *Transfers*								tons
17	Total TRI Waste Minimized, on & *off-site*								tons
18	TRI Pollution that was Prevented								

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Company Name			
TRI ID# or EPA ID#		Report Date	

Part 4A - Discussion

This part is for discussion of optional information that you wish to supply. You may wish to discuss some or all of the following areas:

- Previous efforts to reduce hazardous waste or the release of pollutants and contaminants through source reduction and waste minimization [§335.476(2)(A)].
- The effect of environmental regulation changes on achieving source reduction and waste minimization goals [§335.476(2)(B)].
- Explain the effect of uncontrollable events on achieving source reduction and waste minimization goals [§335.476(2)(C)].
- The operational decisions made that have affected the achievement of source reduction and waste minimization goals [§335.476(2)(D)].
- Explain the effect of other factors on achieving goals [No cite].

DISCUSSION:

I have attached _____ additional pages of discussion

Optional Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Baseline Adjustment Worksheet

Company Name			
TRI ID# or EPA ID#		Report Date	

Part 4B - Baseline Amounts Reported and Adjustments

	Complete this worksheet if quantity of total hazardous waste generation and total TRI releases (on-site releases and off-site transfers) reported in base year will be adjusted and reported on Part 4C - Facility Progress (Adjusted).	HW (tons) Generated[1] (A)	TRI (tons) Onsite Releases[2] (B)	TRI (tons) Off-site Transfers[3] (C)
1	Enter Base Year (If not 1987, see Instructions)			
2	Onsite Releases (TRI only)			
3	Off-site Transfers (TRI only)			
4	Total Amounts Reported for Base Year			
Note: If an amount in rows 5 to 9 is negative, enclose the negative value in parenthesis, eg:(1,000)				
5	Amount due to change in regulations or definitions (+/-)			
6	Amount due to significant changes in production, unit startup or shutdown(+/-)			
7	Amount due to accidental spills, one time events, non-routine activities (+/-)			
8	Amount due to other changes such as better measurements, recalculation, monitoring (+/-):			
9	Baseline Adjustments, Net Total (+/-) (Sum of rows 5 through 8)			
10	Adjusted Baseline Amount (Add row 4 and 9)			

[1] All HW generated with Tx. waste code beginning with "9" or ending with "H".

[2] All TRI onsite releases for all chemicals reported in Form R, section 5.

[3] All TRI off-site transfers for all chemicals reported in Form R, section 6.

Company Name			
TRI ID# or EPA ID#		Report Date	

Part 4C- Adjusted Facility Progress

Enter adjusted quantities in Column (A) only. All other entries should be identical to entries on Part 3.		BASE YEAR (A)	PRIOR YEAR (B)	FIRST REPORT YEAR (C)	SECOND REPORT YEAR (D)	THIRD REPORT YEAR (E)	FOURTH REPORT YEAR (F)	FIFTH REPORT YEAR (G)	PROJECTED AMOUNTS THRU FIFTH YEAR (H)
Fill in appropriate reporting years :									
HAZARDOUS WASTES - Estimated quantities. All units are tons.									
1	Amount HW Generated								
2	Amount Changed from Previous Entry(+/-)								
3	Reduction due to SR								
4	Waste Minimized, Onsite & Off-site								
5	HW Pollution that was Prevented								
6	HW Incinerated, Onsite & Off-site								
TRI RELEASES - Onsite & *Off-site* - Estimated quantities. All units are tons.									
7	TRI Releases, onsite								
8	Amount Changed from Previous Entry (+/-)								
9	Source Reduced, onsite								
10	Waste Minimized, onsite								
11	Incinerated, onsite								
12	*TRI Transfers, off-site*								
13	*Amount Changed from Previous Entry (+/-)*								
14	*Waste Minimized, off-site*								
15	*Incinerated, off-site*								
16	Total TRI Releases and *Transfers*								
17	Total TRI Waste Minimized, on & *off-site*								
18	TRI Pollution that was Prevented								

Optional Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Company Name			
TRI ID# or EPA ID#		Report Date	

Part 4D - Optional "Success Story"

1. BENEFITS: Which benefits have your facility found in pollution prevention planning? Please check any that apply:			
	Cost Savings - if yes, how much (estimate)?		
	Reduced Regulatory Burden - if yes, which regulations/permits were avoided?		
	Reduction in specific Hazardous Waste(s) and/or TRI - if yes, what waste(s)/TRI and how much?		
	Reduction in overall Hazardous Waste generation and/or TRI - if yes, how much?		
	Other:		
2. STORY: Briefly describe your project, including your activity (or process) before planning, your activity (or process) after planning and how your project helped your facility (use another page if necessary). Include: waste/chemical(s) involved, cost savings, any regulatory requirements reduced, etc. Feel free to describe more than one project (use additional pages if necessary).			
3. NUMBER OF EMPLOYEES AT YOUR FACILITY:			
4. APPROVAL: May we use your "success story" in TNRCC guidance documents?			
	Yes, by name		Yes, but don't mention name
	Not sure, please call to discuss		No

Checklist for Optional Forms

Accuracy and Completeness of Information Given in Part 3 — Facility Progress Unadjusted

- ☐ All quantities are in tons.
- ☐ The "Goal Year" information is filled out (Column H, Rows 1,3,4,9,16,17).
- ☐ The "Goal Year" is the fifth year of the plan (Column H). Column H provides projections for the fifth year of the program; whereas, Column G provides the actual data from the fifth year and is filled out with information regarding the fifth year of the program.
- ☐ The "amount of hazardous waste generated" reported in Row 1 is equivalent to the total hazardous waste reported on Annual Waste Summary that was sent to the Industrial and Hazardous Waste Division. The total tons of hazardous waste streams (codes starting with 9 or ending with H) on the Annual Waste Summary should equal totals given in WRPA report.
- ☐ Wastewater that is currently classified as hazardous under the 1990 toxic characteristic rules is included in the total for hazardous waste reported (Row 1) for years that this rule applies.
- ☐ All off-site TRI transfers (reported on the Form R) are reported in Row 12, including TRI chemicals that are recycled or otherwise managed off-site if applicable. The off-site TRI transfers given in Row 12 should be equal to the total TRI transfers reported on Form R (Section 6)
- ☐ On-site releases reported in Row 7 should be equal to the total on-site releases reported on Form R (Section 5).

It is not necessary to send in this checklist.

Appendix A
Subchapter Q Rules
Pollution Prevention: Source Reduction and Waste Minimization

§335.471. Definitions.

The words and terms used in this subchapter have the meanings given in the Waste Reduction Policy Act of 1991, Senate Bill 1099, or the regulations promulgated thereunder. The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise. Further, the following words and terms, as defined herein, shall only have application to this subchapter.

Acute hazardous waste - Hazardous waste listed by the Administrator of the United States Environmental Protection Agency (EPA) under the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. §6901 et seq.), because the waste meets the criteria for listing hazardous waste identified in 40 Code of Federal Regulations, §261.11(a)(2).

Board - The Texas Air Control Board.

Commission - The Texas Water Commission.

Committee - The waste reduction advisory committee established by the Texas Solid Waste Disposal Act, Health and Safety Code Annotated, §361.0215.

Conditionally exempt small quantity generator - A generator that does not accumulate more than 1,000 kilograms of hazardous waste at any one time on his facility and who generates less than 100 kilograms of hazardous waste in any given month.

Environment - Water, air, and land and the interrelationship that exists among and between water, air, land, and all living things.

Facility - All buildings, equipment, structures, and other stationary items located on a single site or on contiguous or adjacent sites that are owned or operated by a person who is subject to this subchapter or by a person who controls, is controlled by, or is under common control with a person subject to this subchapter.

Generator and generator of hazardous waste - Have the meaning assigned by the Texas Solid Waste Disposal Act, Health and Safety Code Annotated, §361.131.

Large-quantity generator - A generator that generates, through ongoing processes and operations at a facility:

(A) more than 1,000 kilograms of hazardous waste in a month; or

(B) more than one kilogram of acute hazardous waste in a month.

Media and medium - Air, water, and land into which waste is emitted, released, discharged, or disposed.

Pollutant or contaminant - Includes any element, substance, compound, disease-causing agent, or mixture that after release into the environment and on exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions, including malfunctions in reproduction, or physical deformations in the organism or its offspring. The term does not include petroleum, crude oil, or any fraction of crude oil that is not otherwise specifically listed or designated as a hazardous substance under §101(14)(A)-(F) of the environmental response law, nor does it include natural gas, natural gas liquids, liquefied natural gas, synthetic gas of pipeline quality, or mixtures of natural gas and synthetic gas.

Release - Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment. The term does not include:

(A) a release that results in an exposure to a person solely within a workplace, concerning a claim that the person may assert against the person's employer;

(B) an emission from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine;

(C) a release of source, by-product, or special nuclear material from a nuclear incident, as those terms are defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. §2011 et seq.), if the release is subject to requirements concerning financial protection established by the Nuclear Regulatory Commission under §170 of that Act;

(D) for the purposes of §104 of the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. §9601 et seq.), or other response action, a release of source, by-product, or special nuclear material from a processing site designated under the Uranium Mill Tailings Radiation Control Act of 1978 (42 United States Code, §§7912 and 7942) §102(a)(1) or §302(a); and

(E) the normal application of fertilizer.

Small quantity generator - A generator that generates through ongoing processes and operation at a facility:

(A) equal to or less than to 1,000 kilograms but more than or equal to 100 kilograms of hazardous waste in a month; or

(B) equal to or less than one kilogram of acute hazardous waste in a month.

Source reduction - Has the meaning assigned by the federal Pollution Prevention Act of 1990, Pub.L. 101-508, §6603, 104 Stat. 1388.

Tons - 2,000 pounds, also referred to as short tons.

Toxic release inventory (TRI) - A program which includes those chemicals on the list in Committee Print Number 99-169 of the United States Senate Committee on Environment and Public Works, titled "Toxic Chemicals Subject to the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA, 42 United States Code Annotated, §11023), 313" including any revised version of the list as may be made by the Administrator of the EPA.

Waste minimization - A practice that reduces the environmental or health hazards associated with hazardous wastes, pollutants, or contaminants. Examples may include reuse, recycling, neutralization, and detoxification.

§335.472. Pollutants and Contaminants.

The following pollutants and contaminants are subject to source reduction and waste minimization planning.

(1) all hazardous wastes generated;

(2) all chemicals which exceed threshold reporting requirements pursuant to Emergency Planning and Community Right-to-Know Act of 1986, §313.

§335.473. Applicability.

This subchapter applies to facilities which are required to develop a source reduction and waste minimization plan pursuant to the Waste Reduction Policy Act of 1991, Senate Bill 1099, or the regulations promulgated thereunder, including:

(1) all large quantity generators of hazardous waste;

(2) all generators other than large quantity generators and conditionally exempt small quantity generators as defined by Health and Safety Code, §361.431(3);

(3) persons subject to §313, Title III, Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act (EPCRA), 42 United States Code, §11023). These TRI covered facilities would be required to develop source reduction and waste minimization plans for only the TRI listed chemicals that exceed threshold quantities established under EPCRA.

§335.474. Source Reduction and Waste Minimization Plans.

All persons identified under §335.473 of this title (relating to Applicability) shall prepare a five year (or more) source reduction and waste minimization plan which may be updated annually as appropriate according to the schedule listed in §335.475 (relating to Implementation Dates). Plans shall be updated as necessary to assure that there never exists a time period for which a plan is not in effect. Prior to completion of the plan and each succeeding plan, a new five-year (or more) plan shall be prepared. Plans prepared under paragraphs (1)-(3) of this section shall contain a separate component addressing source reduction activities and a separate component addressing waste minimization activities.

(1) With the exception of small quantity generators which are subject to paragraph 3 of this section, the plan shall include, at a minimum:

(A) an initial survey that identifies:
(I) for facilities described in §335.473(1), activities that generate hazardous waste; and
(ii) for facilities described in §335.473(3), activities that result in the release of pollutants or contaminants designated under §335.472 of this title (relating to Pollutants and Contaminants);

(B) based on the initial survey, a prioritized list of economically and technologically feasible source reduction and waste minimization projects;

(C) an explanation of source reduction or waste minimization projects to be undertaken, with a discussion of technical and economic considerations, and environmental and human health risks considered in selecting each project to be undertaken;

(D) an estimate of the type and amount of reduction anticipated;

(E) a schedule for the implementation of each source reduction and waste minimization project;

(F) source reduction and waste minimization goals for the entire facility, including incremental goals to aid in evaluating progress;

(G) an explanation of employee awareness and training programs to aid in accomplishing source reduction and waste minimization goals;

(H) certification by the owner of the facility, or, if the facility is owned by a corporation, by an officer of the corporation that owns the facility who has the authority to commit the corporation's resources to implement the plan, that the plan is complete and correct;

(I) identification of cases in which the implementation of a source reduction or waste minimization activity designed to reduce risk to human health or the environment may result in the release of a different pollutant or contaminant or may shift the release to another medium; and

(J) an executive summary of the plan which shall include at a minimum:
(I) a description of the facility which shall include:
(I) name of the facility;
(II) address;

(III) contact;
(IV) a general description of the facility; and
(V) Texas Air Control Board account number (TACB), Texas Water Commission (TWC) solid waste notice of registration number, TWC Wastewater permit number, United States Environmental Protection Agency (EPA) identification number (Resource Conservation and Recovery Act (RCRA) number), National Pollutant Discharge Elimination System (NPDES) permit number, and underground injection well code identification number.

(ii) a list of all hazardous wastes generated and the volume of each;
(iii) a list of all reportable TRI releases and the volume of each;
(iv) a prioritized list of pollutants and contaminants to be reduced;
(v) a statement of reduction goals;
(vi) an explanation of environmental and human health risks considered in determining reduction goals;
(vii) implementation milestones for individual project development;

(viii) an implementation schedule for future reduction goals; and
(ix) identification and description of cases in which the implementation of source reduction or waste minimization activity designed to reduce risk to human health or the environment may result in the release of a different pollutant or contaminant or may shift the release to another medium. Included in this description shall be a discussion of the change in characteristic of the normal waste stream or release and how it will be managed in that affected medium.

(2) The source reduction and waste minimization plan may also include:
(A) a discussion of the person's previous efforts at the facility to reduce risk to human health and the environment or to reduce the generation of hazardous waste or the release of pollutants or contaminants;
(B) a discussion of the effect changes in environmental regulations have had on the achievement of the source reduction and waste minimization goals;
(C) the effect that events the person could not control have had on the achievement of the source reduction and waste minimization goals;
(D) a description of projects that have reduced the generation of hazardous waste or the release of pollutants or contaminants; and
(E) a discussion of the operational decisions made at the facility that have affected the achievement of the source reduction or waste minimization goals or other risk reduction efforts.

(3) The plans of small quantity generators shall include, at a minimum:
(A) a description of the facility which shall include:
(I) name of the facility;
(ii) address;
(iii) contact;
(iv) general description of the facility; and
(v) TACB account number, TWC Solid Waste Notice of Registration number, TWC Wastewater Permit Number, EPA Identification number (RCRA number), NPDES permit number, and underground injection well code identification number.
(B) a list of all hazardous wastes generated and the volume of each;
(C) a list of all reportable TRI releases and the volume of each;
(D) a prioritized list of pollutants and contaminants to be reduced;
(E) a statement of reduction goals;
(F) information on environmental and human health risks, such as Material Safety Data Sheets or other available documentation, considered in determining reduction goals;
(G) implementation milestones for individual project development;
(H) an implementation schedule for future reduction goals; and
(I) identification and description of cases in which the implementation of a source reduction or waste minimization activity designed to reduce risk to human health or the environment may result in the release of a different pollutant or contaminant or may shift the release to another medium. Included in this description shall be a discussion of the change in characteristic of the normal waste stream or release and how it will be managed in that affected medium.
(J) certification by the owner of the facility, or, if the facility is owned by a corporation, by an officer of the corporation that owns the facility who has the authority to commit the corporation's resources to implement the plan, that the plan is complete and correct.
(K) an executive summary of the plan which shall include at a minimum:
(I) a description of the facility which shall include:
(I) name of facility;
(II) address;
(III) contact;
(IV)EPA ID, TNRCC solid waste notice of registration number;
(V) primary SIC code.
(ii) a projection of the amount of hazardous waste that the facility will generate (based on what is reported as hazardous waste under 30 TAC 335.9) at the end of the five year period that the plan is in place.
(iii) prioritized list of pollutants and contaminants to be reduced.
(iv) a list of source reduction activities associated with reductions of pollutants identified under 335.474(3)(D).

(4) The executive summary may include:

(A) a discussion of the person's previous effort at the facility to reduce hazardous waste or the release of pollutants or contaminants through source reduction or waste minimization;

(B) a discussion of the effect changes in environmental regulations have had on the achievement of the source reduction and waste minimization goals;

(C) the effect that events the person could not control have had on the achievement of the source reduction and waste minimization goals; and

(D) a discussion of the operational decisions the person has made that have affected the achievement of the source reduction and waste minimization goals.

§335.475. Implementation Dates.

All facilities subject to this subchapter shall develop a source reduction and waste minimization plan. The implementation year shall be determined by the prior year's reported volumes of hazardous waste generated and/or total TRI releases. A facility once subject to this subchapter shall remain subject until it no longer meets the requirements of §335.473 of this title (relating to Applicability) or are exempted under §335.477 of this title (relating to Exemptions). Volumes for calculations will be based on total hazardous waste generated and/or total TRI releases. The executive summary shall be submitted to the commission and the board on the date the plan is required to be in place. Plan implementation will be according to the following schedule:

(1) The source reduction and waste minimization plan shall be in place, available for review, and shall be implemented no later than July 1, 1993 for:

(A) hazardous waste generators reporting 5,000 tons or more; or

(B) TRI facilities reporting 100 tons or more.

(2) The source reduction and waste minimization plan shall be in place, available for review, and shall be implemented no later than January 1, 1994 for:

(A) hazardous waste generators reporting less than 5,000 tons but more than or equal to 500 tons; or

(B) TRI facilities reporting less than 100 tons but more than or equal to 10 tons.

(3) The source reduction and waste minimization plan shall be in place, available for review, and shall be implemented no later than January 1, 1995 for:

(A) hazardous waste generators reporting less than 500 tons but more than or equal to 15 tons; or

(B) TRI facilities reporting less than 10 tons but more than or equal to 5 tons.

(4) The source reduction and waste minimization plan shall be in place, available for review, and shall be implemented no later than January 1, 1996 for:

(A) hazardous waste generators reporting less than 15 tons but more than or equal to 5 tons; or

(B) TRI facilities reporting less than 5 tons but more than or equal to 1 ton.

(5) The source reduction and waste minimization plan shall be in place, available for review, and shall be implemented no later than January 1, 1997 for:

(A) hazardous waste generators reporting less than 5 tons but greater than 1.102 tons (1,000 kilograms); or

(B) TRI facilities reporting less than 1 ton.

(6) After the effective date of this subchapter, any facility which becomes subject to the requirement to have a source reduction and waste minimization plan, either within 90 days prior to or at any time following the dates referenced in paragraph (1)-(5) of this section, shall have 90 days to have the plan in place and available for review.

§335.476. Reports and Record keeping.

All persons required to develop a source reduction and waste minimization plan for a facility under this subchapter shall submit to the commission and the board, concurrent with implementation of the plan under §335.475 of this title (relating to Implementation Dates), an initial executive summary of such plan and a copy of the certification of completeness and correctness in §335.474(1)(H) of this title (relating to Source Reduction and Waste Minimization Plans). Within 30 days of any revision of such plan, a revised executive summary including a copy of a new certificate of completeness and correctness shall be submitted. All owners and operators required to develop a plan under §335.473(1) and (3) (related to Applicability) shall also submit an annual report as defined below under paragraphs (1), (2), and (3) of this section according to the schedule outlined in paragraph (4) of this section. Persons required to develop a source reduction and waste minimization plan for a facility under §335.473(2) (related to Applicability) may meet

the annual reporting requirements by submitting their annual waste summary required under 30 TAC 335.9 and by submitting their hazardous waste reduction goals as required under §335.474(K)(ii).

(1) The report shall detail the facility's progress in implementing the source reduction and waste minimization plan and include:

(A) an assessment of the progress toward the achievement of the facility source reduction goal and the facility waste minimization goal;

(B) a statement to include, for facilities described in §335.473(1) of this title (relating to Applicability), the amount of hazardous waste generated and, for facilities described in §335.473(3), the amount of the release of reportable pollutants or contaminants designated under the Texas Solid Waste Disposal Act, the Texas Health and Safety Code Annotated, §361.433(C) in the year preceding the report, and a comparison of those amounts with the amounts generated or released using 1987 as the base year.

(C) any modification to the plan.

(2) The report may include:

(A) a discussion of the person's previous effort at the facility to reduce hazardous waste or the release of pollutants or contaminants through source reduction or waste minimization;

(B) a discussion of the effect changes in environmental regulations have had on the achievement of the source reduction and waste minimization goals;

(C) the effect that events the person could not control have had on the achievement of the source reduction and waste minimization goals; and

(D) a discussion of the operational decisions the person has made that have affected the achievement of the source reduction and waste minimization goals.

(3) The report shall contain a separate component addressing source reduction activities and a separate component addressing waste minimization activities.

(4) The report and the executive summary of the plan shall be submitted according to the following schedule and annually thereafter.

(A) For all facilities meeting the specifications of §335.475(1) of this title (relating to Implementation Dates), the first report will be due on or before March 1, 1994. The report will cover calendar year 1993. Subsequent annual reports will be submitted on or before July 1 of each year.

(B) For all facilities meeting the specifications of §335.475(2), the first report will be due on or before July 1, 1995. The report will cover calendar year 1994.

(C) For all facilities meeting the specifications of §335.475(3), the first report will be due on or before July 1, 1996. The report will cover calendar year 1995.

(D) For all facilities meeting the specifications of §335.475(4), the first report will be due on or before July 1, 1997. The report will cover calendar year 1996.

(E) For all facilities meeting the specifications of §335.475(5), the first report will be due on or before July 1, 1998. The report will cover calendar year 1997.

(5) Base line data from the calendar year 1987 shall be used in developing each of the first reports referred to in paragraph (4) of this section.

(6) The report shall be submitted on forms furnished or approved by the executive directors of the commission and the board and shall contain at a minimum the information specified in paragraph (1) of this section. Upon written request by the facility, the executive directors may authorize a modification in the reporting period.

§335.477. Exemptions.

(a) This subchapter does not apply to:

(1) conditionally exempt small quantity generators; and

(2) facilities regulated by the Railroad Commission of Texas under the Natural Resources Code, §§91.101 or §141.012.

(b) Owners and operators of facilities listed in §335.473 of this title (relating to Applicability), may apply on a case-by-case basis, to the executive directors of the commission and the board for an exemption from this subchapter. The executive directors of the commission and board may grant an

exemption if the applicant demonstrates that sufficient reductions have been achieved. If an exemption is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The executive directors' decision will be based upon the following standards and criteria for determining practical economic and technical completion of the plan:

(1) the facility has reduced the amount of pollutants and contaminants being generated or released by 90% since the base year;

(2) potential impact on human health and the environment of any remaining hazardous waste generated, or pollutant or contaminant released; and

(3) a demonstration that additional reductions are not economically and technically feasible.

§335.478. Administrative Completeness.

The commission or the board may review a source reduction and waste minimization plan or annual report to determine whether the plan or report complies with this subchapter.

§335.479. Enforcement.

Failure to have a source reduction and waste minimization plan in accordance with this subchapter or failure to submit a source reduction and waste minimization annual report in accordance with this subchapter is a violation.

§335.480. Confidentiality.

(a) A source reduction and waste minimization plan shall be maintained at each facility owned or operated by a person and/or generator who is subject to this subchapter and shall be available to commission or board personnel for inspection. The source reduction and waste minimization plan is not a public record for the purposes of Chapter 424, Acts of the 63rd Legislature, Regular Session, 1973 (Texas Civil Statues, Article 6252-17a).

(b) The executive summary of the plan and the annual report are public records. On request, the person and/or generator shall make available to the public a copy of the executive summary of the plan or annual report.

(c) If an owner or operator of a facility for which a source reduction and waste minimization plan has been prepared shows to the satisfaction of the commission or board that an executive summary of the plan, annual report, or portion of a summary or report prepared under this subchapter would divulge a trade secret if made public, the commission or board shall classify as confidential the summary, report, or portion of the summary or report.

(d) To the extent that a plan, executive summary, annual report, or portion of a plan, summary, or annual report would otherwise qualify as a trade secret, an action by the commission or board or an employee of the commission or board does not affect its status as a trade secret.

(e) Information classified by the commission or board as confidential under this section is not a public record for purposes of Chapter 424, Acts of the 63rd Legislature, 1973 (Texas Civil Statutes, Article 6252-17a), and may not be used in a public hearing or disclosed to a person outside the commission or board unless a court decides that the information is necessary for the determination of an issue being decided at the public hearing.

Amendments to §335.476
Date Adopted: June 14, 1995
Date Filed with the Secretary of State: June 20, 1995
Date Effective: July 11, 1995

Amendments to §335.474 and §335.476
Date Adopted: November 29, 1995
Date Files with the Secretary of State: December 4, 1995
Date Effective: December 25, 1995

Appendix B
How to Obtain the TNRCC Publications You Need

If you need:	Order:
• A copy of the rules • More detailed information about WRPA • General information to set up a pollution prevention program • An LQG/TRI-type plan and/or executive summary • An SQG/non-TRI-type plan	☐ RG-133 Pollution Prevention Assessment Manual
If you need:	**Order:**
• Information on how to prepare an LQG/TRI-type annual report	☐ RG-112 SR/WM Annual Progress Report Manual Forms
If you need:	**Order:**
• Information on how to prepare a SQG plan and/or executive summary	☐ RG-196 SR/WM Executive Summary for non-TRI SQGs

Contact TNRCC Publications

Call : (512) 239-0028

Write: TNRCC Publications - M/C 195
P.O. Box 13087
Austin, TX 78711-3087

or fax: (512) 239-4488

Remember to include your name, address, and phone number on any correspondence. All orders will be mailed either fourth class or bookrate. Please allow two to four weeks for delivery.

Appendix C
Using TNRCC ONLINE (Downloading from TNRCC via Modem)

TNRCC on the Internet

You may access the TNRCC home page at **http://www.tnrcc.state.tx.us**, or e-mail the Office of Pollution Prevention and Recycling at **oppr@tnrcc.state.tx.us**.

TNRCC publications are available on the Internet at **http://www.tnrcc.state.tx.us/admin/topdoc/pd/001/rg.html**; simply click on the appropriate document number and follow the instruction menu;

If you wish to download manuals and forms you may also use TNRCC OnLine.

How do I access TNRCC OnLine?
From your PC and modem, dial (512) 239-0700.
Follow the instructions to set up an account if you have not used TNRCC OnLine before.

Where do I find the information once I've accessed TNRCC OnLine?
From the main menu, choose "TNRCC General"
Then choose "Pollution Prevention and Recycling"
This menu includes information on 1996 Workshops and other programs
For regulatory information, select "Source Reduction and Waste Minimization Requirements"
Then choose one or more of the following documents:
A. Does WRPA Apply to Me? (RG-209)
B. Source Reduction and Waste Minimization Requirements for SQGs (non-TRIs)/Executive Summary Form (RG-196)
- SR/WM requirements for SQGs who are NOT TRI reporters
- SR/WM executive summary form for SQGs/non-TRI reporters
- a full copy of the SR/WM Rules (30 TAC 335.471-335.480)

C. Source Reduction and Waste Minimization for LQGs/TRI
- SR/WM plan requirements for LQGs and/or TRI reporters
- a full copy of the SR/WM Rules (30 TAC 335.471-335.480)
- questions and answers on compliance

D. Pollution Prevention Assessment Manual (RG-133)
- available ONLY as PageMaker file (May not be available at this time)

E. Source Reduction and Waste Minimization Revised Annual Reporting for LQGs/TRI Instructions and Forms (RG-112)
- complete instruction manual and forms

NOTE: If you are not sure what you need, you should download A. This will tell you what other documents you need.

Who can I call with questions about TNRCC OnLine (connections, downloading, etc.)?
TNRCC Technical Support Help Desk
(512) 239-0911

Who can I call with questions on Source Reduction and Waste Minimization (how to complete forms, requirements, etc.)?
TNRCC Industrial Pollution Prevention Team at (512) 239-3100

Will there be a charge?
There is no charge for using TNRCC OnLine; however, if you are calling long-distance, normal long-distance charges will be incurred.

Appendix D
Locating Your Facility's Standard Industrial Classification (SIC) Codes

Appendix E
Sample Case: SR/WM Annual Progress Report

ABC company operates a small widget manufacturing facility on the west side of Anytown Texas. This factory is part of the larger ABC-D Corporation, a multinational widget production company. The site has four waste streams, denoted HW1, HW2, HW3, and HW4. There is also one non-hazardous waste stream, denoted SW1. The company uses a widget coating material that contains TRI-A a chemical listed on the TRI Form R. The SR/WM plan was due January 1, 1995; thus, the first SR/WM Annual Progress Report is due July 1, 1996.

Five year plan for the Facility:

The facility five-year goals include:

1. Elimination of HW1 (parts cleaning solvent) by 1996. This was accomplished ahead of schedule in the first report year (1995). Achieving this goal will result in a source reduction of 25 tons of hazardous waste.

2. Reducing HW2 (wastewater) by 50 percent (from 300 tons to 150 tons) in 1995 by improved waste segregation. In 1995, the facility had only reduced the wastewater by 100 tons, but plans to achieve the remaining reductions (50 tons) by 1996. Achieving this goal will result in a source reduction of 150 tons of hazardous waste.

3. Recycle HW3 continuously starting in 1995. Achieving this goal will result in a 90% waste minimization for this waste stream.

4. Elimination of TRI releases by changing coatings by 1997. Achieving this goal will result in a source reduction of 12 tons of toxic chemicals.

1987 Data from the Annual Waste Summary

HW1: 25 tons of HW1, a petroleum solvent used for parts cleaning (hazardous due to ignitability) was reported as generated in 1987 -- all of it was disposed of.

HW2: This is wastewater that is hazardous due to TCLP; thus none was reported in 1987.

HW3: 125 tons of HW3, spent solvent, was reported as generated in 1987 -- all of it was disposed of.

1987 Data from the TRI Form R

The company reported 12 tons of TRI-A air releases from the coating operation

1994 Data from the Annual Waste Summary

HW1: 50 tons of this parts cleaning solvent was reported as generated in 1994 -- all of it was picked up and disposed of off-site, system type code M137.

HW2: 300 tons of this wastewater was reported as generated in 1994. All of it is deep well injected, system type code M134.

HW3: 100 tons of this solvent was reported was generated in 1994 -- all of it was disposed of by deep well injection, system type code M134.

1994 Data from the 1995 TRI Form R

The company reported 12 tons of TRI-A air releases from the coating operation

1995 Data from Annual Waste Summary

HW1: The facility replaced the ignitable parts cleaner solvent, with a non-hazardous parts cleaner (flash point > 140 degrees F). Thus "0" tons of this material was reported in 1995.

SW1: This is the non-hazardous parts cleaner that was used to replace HW1 -- all of SW1 was recycled off-site in 1995.

HW2: 200 tons of this wastewater was reported as generated in 1994, the reductions from 300 tons in 1994 was due to better wastewater segregation (source reduction).

HW3: 100 tons of this spent solvent was reported as generated in 1995. Rather than disposing of it, the facility installed an on-site still to recover the material. All of the material is processed in the still (system type code M021); however, only 90 percent (90 tons) of the solvent is made available for further reuse.

HW4: As a result of the distillation recovery of HW3, 10 tons of still bottoms were generated and classified as HW4. These 10 tons of still bottoms are incinerated off-site, system type code M041.

1995 Data from the 1996 TRI Form R

One of the line workers developed a new coating process that applied the coating more efficiently, since they used less coating, only 10 tons of TRI-A air releases occurred in 1995.

1996 Data from Annual Waste Summary

HW1: This waste is no longer used. Thus "0" tons of this material was reported in 1995.

SW1: This is the non-hazardous parts cleaner that was used to replace HW1 -- all of SW1 was recycled off-site in 1995. This is non hazardous and should not be reported in the required part annual progress report; the company may choose to put it in the optional section, or include it in their SR/WM plan.

HW2: 150 tons of this wastewater was reported as generated in 1994. Another reduction, from 200 tons in 1995 was due to increasingly better wastewater segregation (source reduction).

HW3: 100 tons of this spent solvent was reported as generated in 1996. They continue to use the recycling system in place and recycle 90% of hazardous waste.

HW4: These 10 tons of still bottoms left over from the recycling of HW3 continue to be incinerated off-site, system type code M041.

1996 Data from the 1997 TRI Form R

The foreman hears of a new water based coating with no TRI chemicals in the ingredients. The company switches to this coating early in the year, but still emits 2 tons of TRI-A for that year. Because they changed materials they will no longer be required to submit the Form R.

Note: *This example includes reduction goals early in the five-year plan for simplicity; however, many facilities may have reductions goals scheduled throughout the five-year period.*

Completion of the Required forms

Part 1

ID Numbers The company looked on the NOR, TRI Form R to fill in the ID's

Number of Employees: This does not have to be an exact count, since ABC has 50 full time employees and 50 employees who work an average of twenty hours per week, they answered 75.

Is your company independently owned or operated? Since the company is part of a larger corporation they answer "NO."

Part 2

Prior Year The plan began in 1995, so the prior year is 1994.

Row 1- From the 1995 annual waste summary we get:

(50 tons of HW1 + 300 tons of HW2 + 100 tons of HW3) = 450 tons of Hazardous waste in.

Row 2 The TRI report for 1994 was 12 tons of TRI-A.

Part 2A

HW - Looking at the 1996 annual waste summary.
HW1 is zero for 1996, so there is no source reduction from HW1.
SW1 is non hazardous, so it is not reported on the 1996 annual report.
HW2 200 tons were produced in 1995, and 100 tons in 1996, therefore their source reduction due to process modifications is 200-100 = 100 tons on row 1.
HW3 - This material was waste minimized. Therefore it is not required to be reported; they may report it on the optional forms.
HW4 - There was no source reduction of this material. The incineration may be reported in the optional forms.

TRI - Since 10 tons of TRI was produced in 1995, and two tons was produced in 1996, the company has source-reduced 8 tons. Next year they will show a source reduction of two tons.

Part 3R

Goal Year - This is a five-year plan beginning in 1995 and ending in 1999.

HW

Row	Question	Calculation
1	Goal Year Projection	Based on the goals, the company will be producing : 150 tons HW2 + 100 tons HW3 + 10 tons HW4 = 260 tons of total HW in 1999
2	Amount Source-reduced	(150 tons in 1995) + (50 tons in 1996) = 200 tons HW source-reduced over 5 year period
3	Percent Waste Minimized	The company will be producing 260 tons of HW in 1999 of this amount 90 tons of HW3 will be waste minimized; therefore the percent waste minimized is: 90 tons divided by 260 times 100% = 34.6 or 35%

TRI - All of the 12 tons has been source-reduced, therefore, 12 tons is put on row 2 column B.

Row	Question	Calculation
1	Goal Year Projection	Based on the goals, the company will be producing no TRI chemicals so they put 0
2	Amount Source-reduced	8 + 2 + 2 = 12 tons TRI source-reduced over 5 year period
3	Percent Waste Minimized	Since no TRI was chemicals there were no waste minimization activities, therefore 0% waste minimization

Required Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report
Part 1 - Facility Description Page 1 of ___

Report Year	*1996*	Report Date	*07/11/97*
Company Name	*ABC Company- WEST SIDE PLANT*		
Name of Pollution Prevention Contact	*Joey Johnson*	EPA ID# (RCRA)	
Title	*Site Manager*	TRI ID #	
Mailing Address	***555 Anystreet***	TNRCC SW Reg. #	
City	***Anytown***	Primary SIC Code	
State and Zip Code	***Texas 55555-1234***	Secondary SIC Code(s)	
		Number of Employees	75
Telephone	***(555)555-5555***	Is your company independently owned or operated?	*no*
Fax	*(555)555-5554*	E-Mail (optional)	http/www.remain.com

Enter date the SR/WM Plan was last revised. Attach an explanation of why it was revised.	*1994*

	Check box if this report revises a report previously submitted this or a previous year.
X	Check box if you are currently a member of the CLEAN INDUSTRIES 2000 program.

Prepared By (Print or type name)	***John D. Clerk***
Preparer's Title	***Administrative Assistant***
Preparer's Telephone Number	***(555)555-5432***

Required Page

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Part 2 - Hazardous Waste and TRI amounts for the year Prior to the First Year of your Plan

	Amount Reported in the Year Prior to the First Year of your Plan	**Prior Year**	Reported Quantities [1]	
		1994	HW (A)	TRI (B)
1	Amount of hazardous waste generated in the Prior Year		*450* Tons	
2	Amount of TRI releases and transfers in the Prior Year			*12* Tons

Part 2A - Source Reduction Activities for Report Year

	Source Reduction Activities Estimate the amount of reductions in HW generated and TRI releases that occurred during the reporting year attributable to each of the source reduction activity categories listed below.	Estimated Quantities [2]	
		HW (tons) (A)	TRI (tons) (B)
1	Good operating practices	*50*	
2	Inventory control		
3	Spill and leak prevention		
4	Raw material modifications		*8*
5	Process modifications		
6	Cleaning and degreasing		
7	Surface preparation and finishing		
8	Product modifications		
9	Total Amount Source Reduced (sum rows 1 through 8)	***50***	***8***

Part 3R - Projected Amounts for Goal Year

	Projected Amounts for Goal Year (goal year is the fifth year the plan is in place)	Goal Year	Estimated Quantities [1]	
		1999	HW (A)	TRI (B)
1	Goal (fifth) year projection - Amount HW Generated - TRI onsite releases plus off-site transfers		*260* Tons	*0* Tons
2	Total Amount source reduction over a five year period		*200* Tons	*12* Tons
3	% Waste minimization for the goal year		35 %	*0* %

Company Name	*ABC Company- WEST SIDE PLANT*		
TRI ID# or EPA ID#	XXXXXXXXXX	Report Date	*7/1/97*

Part 4A - Discussion

This part is for discussion of optional information that you wish to supply. You may wish to discuss some or all of the following areas:

- Previous efforts to reduce hazardous waste or the release of pollutants and contaminants through source reduction and waste minimization [§335.476(2)(A)].
- The effect of environmental regulation changes on achieving source reduction and waste minimization goals [§335.476(2)(B)].
- Explain the effect of uncontrollable events on achieving source reduction and waste minimization goals [§335.476(2)(C)].
- The operational decisions made that have affected the achievement of source reduction and waste minimization goals [§335.476(2)(D)].
- Explain the effect of other factors on achieving goals [No cite].

DISCUSSION

1) Pollution prevention activities resulted in a pollutant shift of HW1 to SW1 (hazardous to non-hazardous). All of the non-hazardous waste was recycled off-site.

2) Recycling activities (distillation of HW3) resulted in the generation of 10 tons of HW4. Even though more waste was generated by this activity, the total waste going to the environment was reduced by at least 90%.

3) Changes in regulations resulted in more waste "apparently" being generated in 1994 and 1995 than in the base year. Estimates indicate that if the TCLP rule had been in effect in 1987, that 250 tons of TCLP wastewater would have been generated in 1987. Thus a total of 400 tons of HW would have been reported in 1987 under equivalent regulations. The facilities overall reduction from this 'adjusted baseline' to 1999 would then be 400 - 260 tons = 140 tons, or 35%.

I have attached _____*0*____ additional pages of discussion

Optional

TNRCC Source Reduction and Waste Minimization Plan Annual Progress Report

Company Name	*ABC Company- WEST SIDE PLANT*		
TRI ID# or EPA ID#	XXXXXXXX	Report Date	*7/1/97*

Part 4D - Optional "Success Story"

1. BENEFITS: Which benefits have your facility found in pollution prevention planning? Please check any that apply:			
X	Cost Savings - if yes, how much (estimate)?	Over $75,000/year	
X	Reduced Regulatory Burden - if yes, which regulations/permits were avoided?	*TRI*	
X	Reduction in specific Hazardous Waste(s) and/or TRI - if yes, what waste(s)/TRI and how much?	TRI - Complete Elimination of 12 tons/year	
X	Reduction in overall Hazardous Waste generation and/or TRI - if yes, how much?	TRI - 12 tons/year	
X	Other:	Switching to water based solvents resulted in a reduction of 75 tons/year of Volatile Organic Compounds (VOC's) and elimination of clean Air Act Hazardous Air Pollutants.	
2. STORY: Briefly describe your project, including your activity (or process) before planning, your activity (or process) after planning and how your project helped your facility (use another page if necessary). Include: waste/chemical(s) involved, cost savings, any regulatory requirements reduced, etc. Feel free to describe more than one project (use additional pages if necessary).			
With the full support ABC underwent a planning process involving employees at every level. Our first step was to increase the efficiency of our coating process. One of the painters had noticed for years that COATING A was being inefficiently sprayed onto the surface of our widget casing. She developed a custom shape for the spray nozzle which sprayed the coating in the exact shape of the widget. Because of her innovation we wasted less of COATING A and therefore produced lower air emissions. We then switched to water based coatings, which were slightly more expensive. This expense was more than offset by the fact that we no longer have to change carbon filters. In addition, we have saved effort completing the emissions inventory and Toxic Release Inventory. The combination of efficient coating, combined with lower regulatory burden and less cost for manpower and carbon filters has resulted in a savings of over $75,000 per year. The one time cost of developing and switching the nozzles was $15,000.			
3. NUMBER OF EMPLOYEES AT YOUR FACILITY:			
4. APPROVAL: May we use your "success story" in TNRCC guidance documents?			
X	Yes, by name		Yes, but don't mention name
	Not sure, please call to discuss		No

1. If reported quantity is greater than 10 tons, round off to nearest ton.
   If actual quantity is less than 10 tons, round off to nearest one-tenth ton

2. If reported quantity is greater than 10 tons, round off to nearest ton.
   If actual quantity is less than 10 tons, round off to nearest one-tenth ton